

# FLIGHT

First Aero Weekly in the World.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

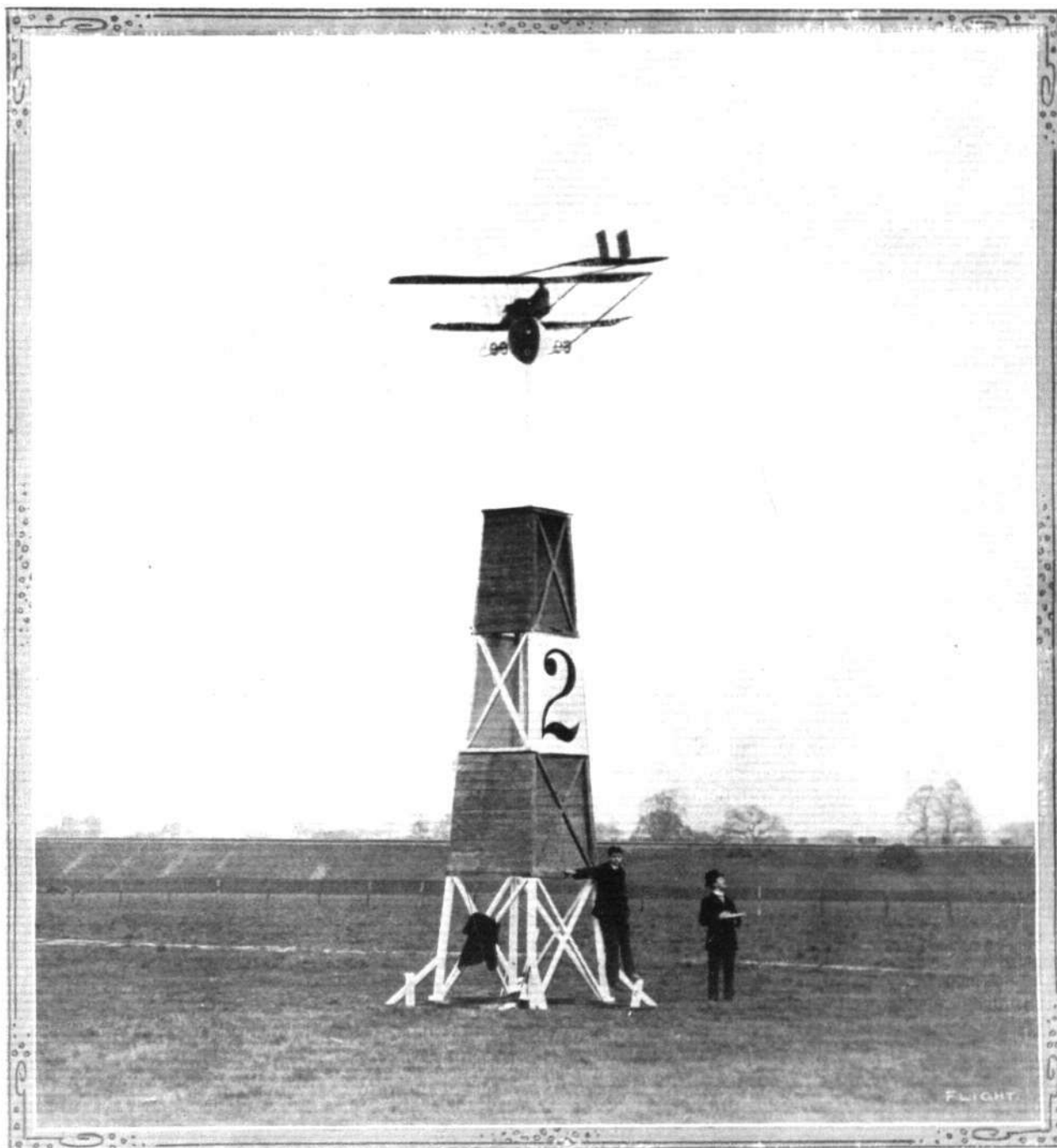
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Not a new form of weathercock, but Ewen, on his Caudron, passing behind pylon No. 2 at the First Spring Meeting at the London Aerodrome on Saturday last.

# EDITORIAL COMMENT.

## Hydro-Aeroplaning, the New Sport.

The question that is passing through our mind at the present moment is whether the occupation of aeroplane pilot is about to have another grand field day as a money making pursuit for the more business-like speculators in this new movement. It appears, from what we can see of things in France, that we are face to face with a new sport—hydro-aeroplaning. A new sport because it combines the delights of flying with the pleasure of the open water and at the same time apparently does not carry with it much worse trouble in a spill than the prospects of a more or less lengthy bath. Down in the south of France, although the recent successful aero-aquatic gymkhana is officially over and the official prizes have long since been won, many of the professional pilots still tarry, for it appears that they can do as much passenger-carrying business as they please and that at rates which are, to say the least of it, remunerative. We understand, in fact, that these are somewhere in the order of about £20 a trip and that it has not been unusual to net a revenue of about £200 in a day with one of the successful hydro-aeroplanes, and there have been two or three accidents of a kind that were, when they occurred, of a sufficiently alarming character to have possibly resulted in very unpleasant results to those concerned, had the same mishap occurred on land. As it was, the consequences were hardly serious and as far as the public was concerned, so much of it as happens to be enjoying a holiday in that quarter seems to have thoroughly made up its mind that the game is more than worth the candle.

Summer season is approaching, and it would be a thoroughly fine thing for aviation generally if a few enterprising financiers were to place immediate orders for a small fleet of hydro-aeroplanes, cum pilots, with which they could establish themselves at the principal seaside resorts in the height of the season for the purpose of giving passenger flights on a calm day. There is profit in this business without a doubt, and we feel no qualms whatever about encouraging it.

On a calm day it is possible to make a flight of many miles along the coast without ever going out of sight of the land and assistance. It should be a perfectly joyous experience to sail along in a calm above the smooth shining water and now and again jumping across some jutting promontory of land, just for pleasure as it were of showing old Mother Earth the independence of the aeroplane in its regard of the idiosyncracies of her coast line. Trips of this sort ought to be extraordinarily popular and a group of skilled pilots with good hydro-aeroplanes should have no difficulty in pursuing a remunerative occupation throughout every fine day in the season. Those who can afford to buy their own machines ought to be able, apparently, to pay for the cost and a handsome amount over for themselves, while the sportsman who is willing to back someone else as a pilot might do far worse than invest a little capital in the new game. It would, at any rate, be a very practical way of encouraging and popularising aviation just at the present time. In fact, it would be a little like competing for your

own prize money with a very good chance of getting more than you put down. For what it is worth at any rate, we commend the idea to those of our readers who are inclined to profit by it; if they mean business they must make haste—and don't forget a stock of life saving jackets. A man may be a good swimmer but he won't like swimming two miles to the shore.

## Military Progress in France.

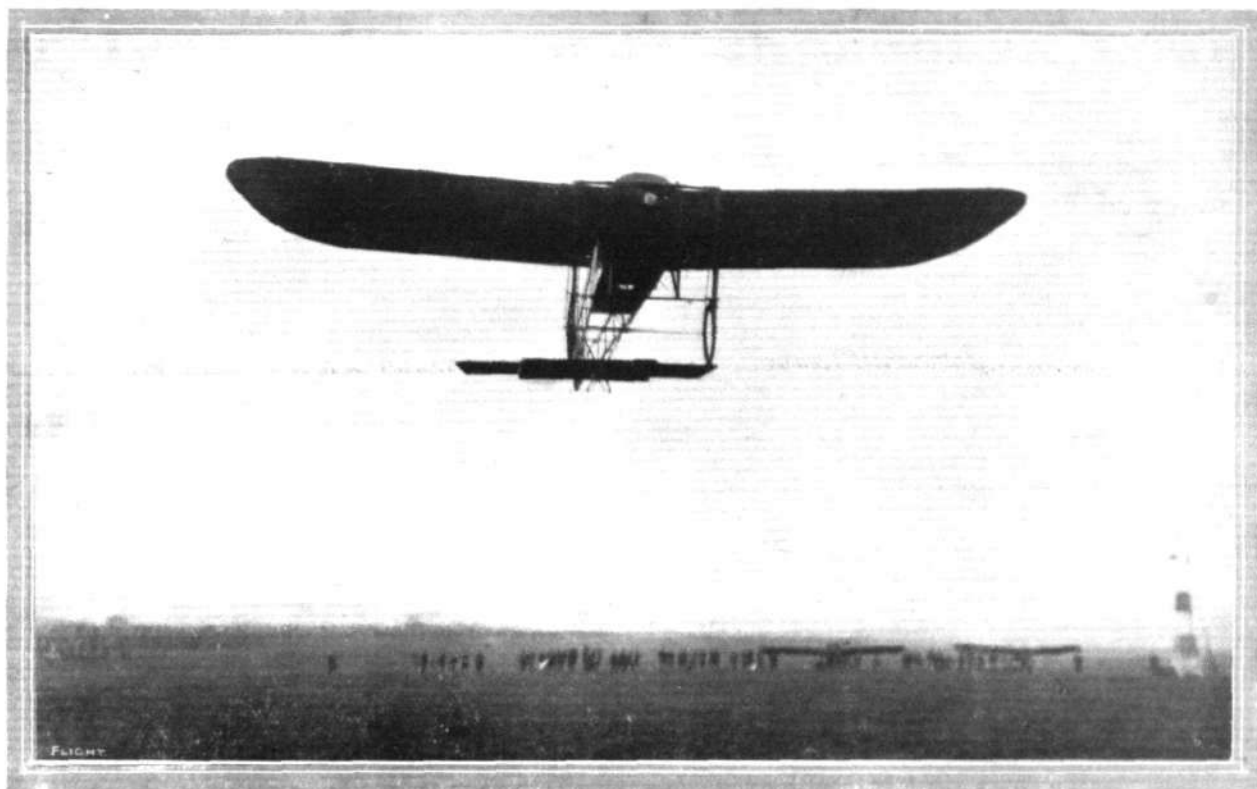
Even at the risk of being thought too insistent upon the progress that our neighbours across the Channel are making in the art and equipment of military aviation, we conceive it once more to be our duty to call attention to the almost marvellous state of efficiency to which France has already brought her aerial arm. A week ago M. Millerand, the Minister of War, accompanied by M. Poincare, President of the Council, held the first official review of an air-corps recorded in history. There have been held official inspections of units, and very many official tests have been carried out from time to time—even in backward England we have heard of that sort of thing—but never before has a high official of State reviewed an air detachment in the manner approved for such functions and by way of matter of course. The review took place at the military aerodrome at Villacoublay and included the aviators and machines forming the "central" group. Twenty-six of them were lined up for inspection, precisely as though they were a couple of artillery brigades, and with no more fuss or sense of the idea that there was anything extraordinary in such a function. So much was this the case that even the French journals merely content themselves with recording the fact that such a review did in fact take place and, beyond chronicling that after the formal inspection several of the officer-aviators made magnificent flights for the benefit of the two Ministers and to demonstrate the efficiency of the detachment, there is no shouting or window-dressing at all. It is, as we say, just as though these functionaries had filled an idle hour by inspecting an artillery unit and, being important personages, the newspapers had noted their movements, with the aside remark that the shooting was excellent.

To our way of thinking this matter of course attitude taken by the French towards the new arm is far more eloquent of the progress that is being made towards efficiency than columns of high-falutin prose turning about the marvels of the aeroplane and the pluck and daring of the men who fly them. That was very well in the early days and served to focus attention upon what was then a scientific marvel, but the true note of progress is struck by the calm acceptance of things as they are—in France. Unfortunately, we in this country have not begun to get near this stage. If all the aeroplanes our fighting services possess at the moment were gathered together in one place, they would not form a unit worth the while of the War Minister spending the time and effort to inspect them. But we are coming along, thank Heaven, and it is only the belief that we are in earnest about overtaking our rivals that keeps us from profound pessimism when we read of what is happening abroad.

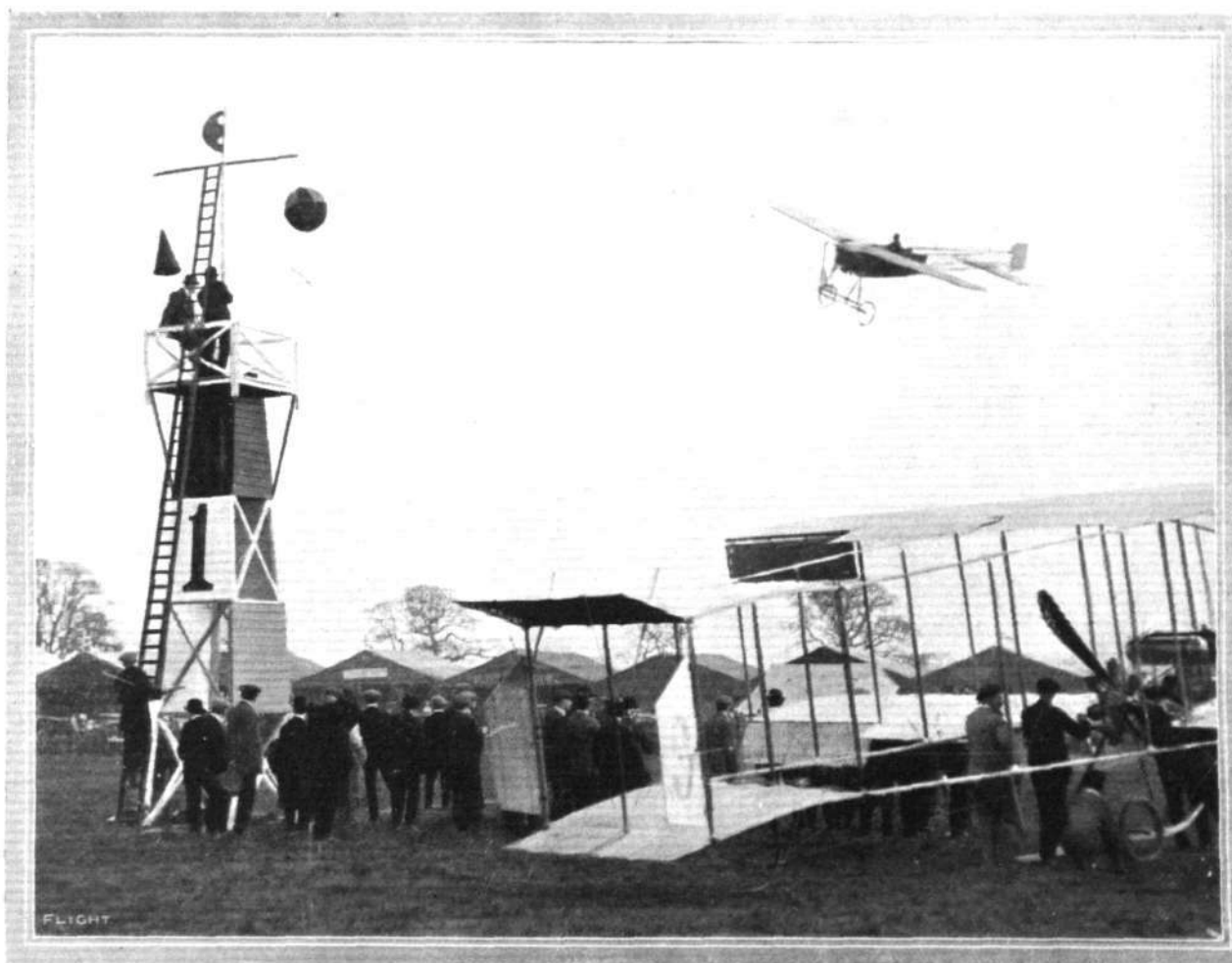
## POPULARISING FLIGHT AT HENDON.

FOLLOWING out the original plan of holding regular week-end meetings, the first two of which have proved so highly successful, the third exhibition is announced for to-day, Saturday, at the London Aerodrome, Hendon. Appropriately enough, this day is the

second anniversary of the London to Manchester flight. A splendid programme of novel events has been drawn up including a monoplane handicap, a relay race, a cross-country race and an altitude contest. Full details will be found in our advertisement pages.



Mr. B. C. Hucks getting off on the Gnome-Blériot at Hendon on Saturday.



Gustav Hamel rounding pylone No. 1 during a race at Hendon Spring Meeting.



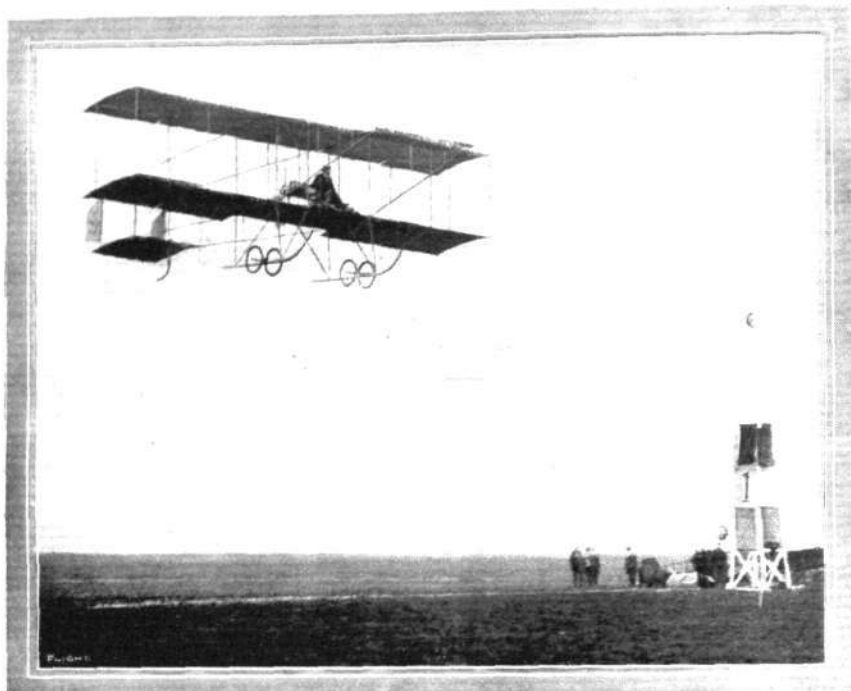
## LONDON AERODROME FIRST SPRING MEETING.

THERE is not a particle of doubt that, thanks to the energies of the proprietors of the London Aerodrome, much enthusiasm in the sport and science of aviation is being instilled into the heart of the Londoner. Not only for that reason should aviation well-wishers be pleased; for in these days, when support is most lacking, it is a joy to see at least one organisation getting financial return for their enterprise. Fully 15,000 people paid for admission to the enclosures on Saturday, April 20th. Motorists seemed to form the greater percentage of those in the centre enclosure; for, even at four o'clock, when cars were still arriving, the writer counted no fewer than 183. No doubt the fine spring weather was a secondary influence in directing the crowd to the aerodrome. Blowing at 10 m.p.h. at about ten o'clock in the morning, the wind gradually rose throughout the afternoon, and while the competitions were in progress it maintained an average velocity of about 18 m.p.h. This, however, did not distress the competitors in the slightest.

Four events figured on the programme—a speed handicap, a cross-country race, a figure of eight speed contest, and an altitude contest. It was originally intended that the cross-country race should lie over a course from the aerodrome to St. Albans and back, but in order to give the spectators a better spectacle than would be afforded by the competitors merely starting and arriving, it was decided to change that course for one from the aerodrome round Harrow Church and back, the course to be traversed twice. We cannot help thinking that perhaps a better turning-point than Harrow Church can for future races be found, for the reason that the hangars to a great extent cut off the view of competitors departing and returning. One would imagine that the Elstree Reservoirs would form an excellent turning-point, as in addition to being a good landmark for pilots,

the crowd would be able to keep the competitors in sight throughout the whole distance.

Five of our best pilots, Messrs. James Valentine, Gustav Hamel, Bentfield C. Hucks, Lewis Turner, and W. H. Ewen, contested the



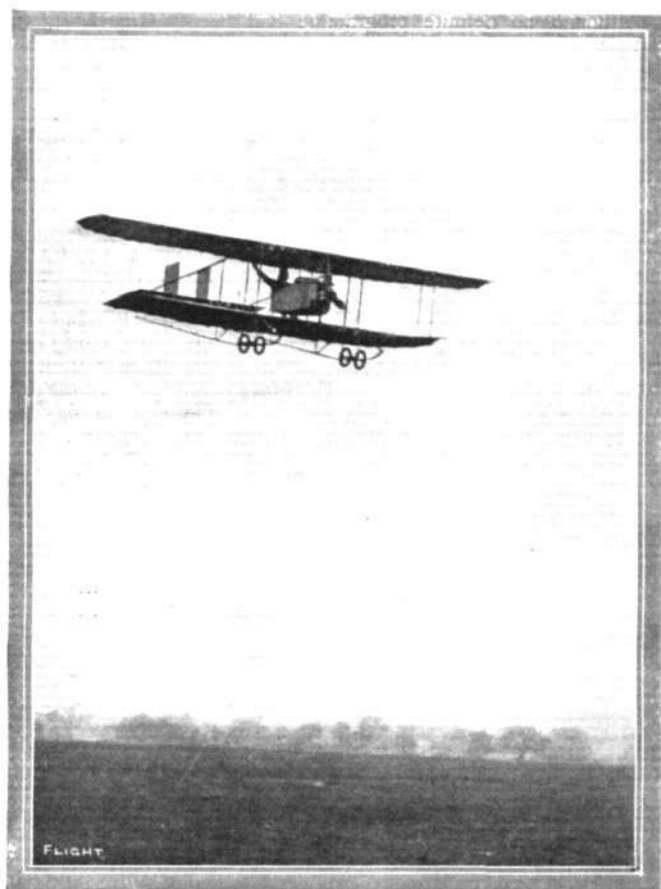
Mr. Lewis Turner flying the Grahame-White Farman in the Figure of Eight Competition.



Mr. B. C. Hucks, on a Gnome-Blériot, passing before the Judges' box at Hendon on Saturday last.

events. Although the flying they did was of the highest possible order, it was nevertheless a pity that some of the other entrants did not put in an appearance to furnish a greater variety of different types of aeroplanes. Most of them had been temporarily deprived of their machines for some reason or other. Mr. S. F. Cody's biplane had been smashed up at Farnborough, Mr. Preseil's Blériot had been reduced to its lowest terms a fortnight since, the machine that M. Blériot is giving to Mr. Salmet, to replace the one he disintegrated in returning from Paris had not arrived, and Lieut. Wilfred Parke had had the misfortune that morning to drop into an air hole at Brooklands, and similarly crack up his Avro biplane. Mr. Grahame-White's flying of his Nieuport monoplane was sadly missed on Saturday, for although he was present he was so busy dashing about from place to place superintending things that he really never had an opportunity of getting into the air. Valentine, on his 50-h.p. Bristol two-seater monoplane, arrived during the morning at half-past eleven, bringing with him Mr. Ronald Charteris as passenger.

The first out in the afternoon at a quarter to three was M. René Caudron, who was over here in England attending to the delivery and tuning up of the first Caudron biplane that Mr. Ewen has received for British consumption. It is really wonderful what this diminutive little biplane will do with only a 35-h.p. air-cooled engine. The well-known French aviator ran along before the enclosures into the wind, and was at a height of at least 300 feet by the time he turned at the far end of the ground. Still climbing he went on up to 700 feet, circling meanwhile, and at the end of probably ten minutes, planed down spirally at a wonderfully small angle. Considering the wind blowing at the time the steadiness that the machine exhibited in the air was an eye-opener for many. Next out was Hucks, testing for the first time a Blériot of very mixed pedigree. Its fuselage and wings were those of the 100-h.p. Gnome racer on which Grahame-White had successfully carried off the Gordon-Bennett trophy at Belmont Park in 1910. The stabiliser and elevators belonged to the Gnome-Blériot he flew at the last meeting, and which he has since cracked up. For power plant he had the 50-h.p. Gnome out of the same machine. Nevertheless, it climbed quite as quickly as Hamel's standard 50-h.p. Gnome-Blériot, and was certainly as fast, if not faster. Lewis Turner made a short flight just afterwards, and at a quarter to four started off in the figure of eight competition, flying one of Grahame-White's Farman biplanes. The course was by no means an easy one, and an engine misfiring very badly did not tend



Rene Caudron flying his biplane "hands off."

to make things any too easy for the pilot. His time for the course, a complete circuit, four figures of eight and a finishing off circuit, was 14 mins. 2 secs. Meanwhile, Valentine had started off on his Bristol monoplane, and was circling overhead at about 1,000 feet. Ewen was off next in the figure of eight contest, on his Caudron biplane. Considering it was the third time he had flown this machine, he put up a most excellent little flight, banking well on his turns, especially on his right-handed ones, which seemed to come to him much easier than those taken in the opposite direction. Although he flew a much cleaner course than did Turner, his time worked out at 14 mins. 36½ secs., for he lost time equivalent to one lap in correcting an error he had made in following the course. Hamel's time was 11 mins. 12½ secs., for his machine, a Blériot, was much faster than the biplanes, and he saved much time at the pylons by quick turning and high banking.

The cross-country event, twice over the course from the aerodrome to Harrow spire and back, commenced at five o'clock. Five machines were lined up at the start. Away first was Lewis Turner on the Farman, doing a half circuit and going across country at a height of 250 feet. His engine was misfiring badly. Six minutes and 45 seconds behind him started Ewen on the Caudron, being given only 2 mins. 30 secs. by Hucks on the Gnome-Blériot. Valentine on the Bristol monoplane started two minutes later, with Hamel just under a minute behind him. Some four minutes after Hamel had started, Turner returned to the aerodrome about 500 ft. up, and the spectators were quite surprised when, instead of turning the pylone and making once more for Harrow Hill, he shut off his engine, planed down, and landed. His engine had been giving so much trouble that he deemed it advisable to abandon the race and have it attended to. Hucks, Valentine, and Hamel rounded the home mark shortly afterwards and disappeared again, flying strongly. Returning for the second time, Hucks was the first to come in sight, flying well at a good thousand feet. He planed down and crossed the line amid cheers. Valentine then appeared. Few people saw the approach of Hamel. He returned to the aerodrome just flying above the tops of the hedges between the aerodrome and the Edgware Road. Crossing the imaginary line between pylones No. 1 and 3, he made one circuit and landed, pulling up within about six feet of a crowd of officials gathered round pylone No. 1. People began to wonder what had become of Ewen on the Caudron biplane, for he had not yet returned to the aerodrome. Quite a quarter of an hour after the completion of the race he could just be discerned away in the distance beyond Edgware, circling as

if to determine his whereabouts. He arrived on the ground some ten minutes later, and explained that in passing over Harrow he had lost his goggles, and half blinded by the oil from the engine exhaust, had mistaken his homeward route. His course, however, he picked up at Elstree, recognising the reservoirs there, and followed the Edgware road back to the aerodrome.

Undoubtedly the most exciting event of the day—although all, for the matter of that, were very interesting—was the speed contest; for to see three fast monoplanes dashing round the course, in close pursuit of each other, must have aroused enthusiasm in the most unemotional of minds. Hucks, Valentine and Hamel were the contestants, Hamel being scratch, and giving 37 secs. to Valentine and 65 secs. to Hucks. Of the starts, Valentine's was by far the neatest, incidentally bringing out a hitherto unrecognised quality in the Bristol monoplane. He had no mechanics to hold him back: he simply threw his *cloche* forward, raising the tail, so that his front skids rested heavily enough on the earth to effectively brake the machine. Receiving the signal to start, he merely lowered the tail by a movement of the elevator, and sped off. Both Hucks and Valentine flew fairly high. Hamel's flight showed the greatest dash, for he sped along close to the ground, taking the turning points as if his inner wing were hinged for the time being to the side of the pylone. His engine was not pulling as well as it might, and despite all his clever handling, he could but reduce the distance that separated him from Valentine. The latter slowly but surely gained on Hucks and, speeding up the straight in finishing the last circuit, drew level and passed him scarcely 300 yards from the finishing line. It was cleverly done on Valentine's part, but it cost him the race, for he was disqualified for passing Hucks on the inside. Hucks crossed the line 5 secs. after Valentine, with Hamel 11 secs. behind.

The Altitude Contest was decided quite late in the evening. The two entrants, Hucks and Hamel, both on Blériot monoplanes, circled up into the gathering haze until both were scarcely discernible. Hucks descended first, his barograph showing an altitude of 3,050 ft. Hamel remained up some fifteen minutes longer. The barograph he carried registered up to 1,200 metres, or roughly 3,960 ft., at which



A new method of testing the abilities of a machine, and incidentally of carrying a passenger. The latter is seated, as can be seen from the photograph, inside the cellule on the right-hand side of the body. On the left-hand wing tip may be distinguished a bag, into which a few heavy tools were thrown, which was attached to equalise the weight. This test was made on Friday of last week at Hendon by M. Rene Caudron.



M. Rene Caudron, one of the two brothers to whom the designs of Caudron aeroplanes are due, and Mr. W. H. Ewen who has taken over the British agency.

height it stopped working. He had continued on for another 20 minutes after this had occurred, and must have climbed to at least 5,500 ft. However, the record of his barograph was sufficient to give him the prize. It was not until a quarter to eight that the three bombs indicating the close of the flying were discharged.

## AVIATION IN NEW ZEALAND.

MR. F. O'CONNELL writes from 218, Peterborough Street, Christchurch, New Zealand, enclosing the two photographs reproduced below:—

He says: "I have much pleasure in forwarding you photos of a glider taken during trials at our ground. The machine is of Chanute type, built by two members, Messrs. Bolt and Angus. Great success was attained in towed flights with passengers, about fifty

Although no definite programme had been mapped out for Sunday afternoon, there were, nevertheless, quite a goodly number of spectators, totalling, approximately, 7,000, in the enclosures. From the early morning, as on the previous day, the wind had been steadily rising. Lewis Turner was the first to make an appearance at half-past one, circling around on a Farman biplane. From then, nothing took place until nearly four o'clock, when Hucks mounted his 50-h.p. Gnome-Blériot and climbed steadily until his barograph showed an altitude of 3,500 feet. From this level he descended by a fine long *vol plané*. Grahame-White flew his 70-h.p. Nieuport soon afterwards, taking it along in front of the enclosures just a few feet off the ground, to give the spectators an idea of the machine's speed at close quarters. No stunts did he do, nor does he ever on that machine. He, and not unnaturally, treats it with great respect. Leaving the Nieuport, he did several circuits on a Farman. Then commenced the passenger-carrying service, Lewis Turner attending to this department and giving joy rides for the remainder of the day. Hucks flew again in the evening, and the last flight of the day was one by Mrs. Stocks, on one of the Grahame-White Farmans.

### RESULTS.

Figure of Eight Speed Contest.—Cup and 10 sovs.; 5 sovs.

	Time.
	m. s.
1. Gustav Hamel (50-h.p. Gnome-Blériot monoplane) ...	11 12 <sup>3</sup> / <sub>4</sub>
2. Lewis Turner (50-h.p. Gnome-Farman biplane)...	14 2
3. W. H. Ewen (35-h.p. Anzani-Caudron biplane)...	14 36 <sup>3</sup> / <sub>4</sub>

Cross-Country Handicap Race.—Cup and 20 sovs.; 10 sovs.

1. B. C. Hucks (50-h.p. Gnome-Blériot monoplane), 2m. 47s.	33 32 <sup>3</sup> / <sub>4</sub>
2. J. Valentine (50-h.p. Gnome-Bristol monoplane), 41s.	35 4 <sup>3</sup> / <sub>4</sub>
3. G. Hamel (50-h.p. Gnome-Blériot monoplane), scratch...	36 45 <sup>3</sup> / <sub>4</sub>

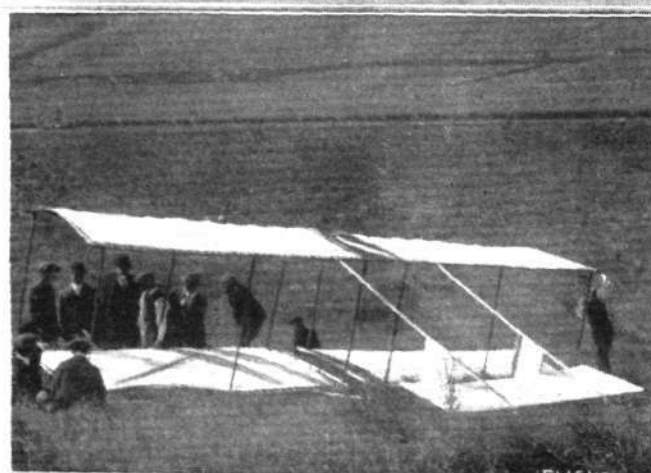
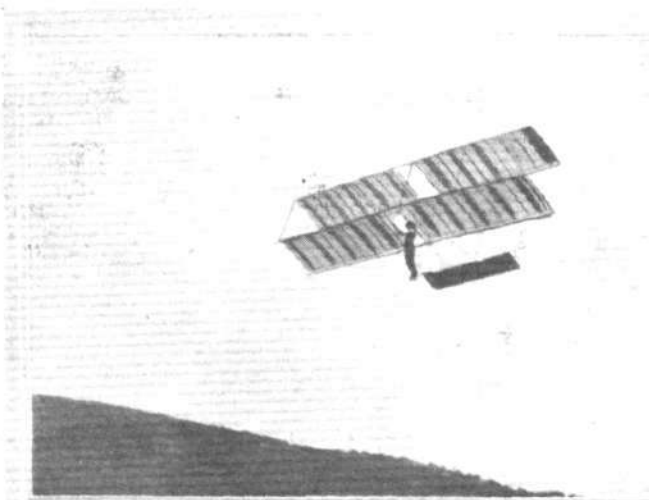
Speed Handicap.—25 sovs. (presented by Messrs. Teofani); 10 sovs.; 5 sovs.

0. J. Valentine (50-h.p. Gnome-Bristol monoplane), 37s.	15 15
1. B. C. Hucks (50-h.p. Gnome-Blériot monoplane), 1m. 5s.	15 20 <sup>3</sup> / <sub>4</sub>
2. G. Hamel (50-h.p. Gnome-Blériot monoplane), scratch...	15 31 <sup>3</sup> / <sub>4</sub>

J. Valentine disqualified.

Altitude Contest.—St. Ivel Challenge Trophy and 10 sovs.; 5 sovs.

	Ft.
1. G. Hamel (50-h.p. Gnome-Blériot monoplane) ...	3,960
2. B. C. Hucks (50-h.p. Gnome-Blériot monoplane) ...	3,050



The Canterbury (New Zealand) Aero Club glider in flight, and on the right is seen a group of members repairing the damage after the smash.



## AEROPLANE WING STRESSES.

WE publish another interesting letter from Mr. Mervyn O'Gorman this week, accompanied by portions of a graphic record showing the instantaneous changes of attitude on the part of an aeroplane in flight. It is a very instructive communication, which deserves to be closely studied by all, notwithstanding the fact that the writer himself tends to underestimate its value in his own letter.

The whole subject of aeroplane stresses in flight, which has been put on the *tapis* by M. Blériot's little disclosure, has, of course, yet to be thoroughly threshed out, but of the many aspects of the case one that particularly deserves study is the centrifugal component caused by swerving from the straight path. This also has been the subject of investigation by Mr. Mervyn O'Gorman, who has drawn our attention to the importance of remembering that the centrifugal stress does not alone result from following curved paths of flight in a vertical plane, being equally induced by turning to the right or left in a horizontal plane. It is convenient in the study of these forces to reckon them in terms of the weight of the machine, because by doing so we can see at a glance the amount by which the factor of safety is diminished under given circumstances. Calculations of this order have already been made by Mr. T. W. K. Clarke, some of which were given in his letter on the Blériot report, which we published recently. They have since been checked by Mr. Mervyn O'Gorman, who has also as we have just mentioned, added the further calculation of the stress due to centrifugal force caused by turning horizontally.

Thus, for example, suppose the radius of the flight path were 75 feet and the speed of flight 40 miles an hour. On the vertical circle, the ratio of the centrifugal force to the weight of the machine is 1.42 to 1, which is to say that if the flight path is downward, *i.e.*, the machine is diving, then the top pressure is the centrifugal force minus the weight, *viz.*, 0.42 times the weight. When the centrifugal force exceeds the weight, as in this instance, top pressure of some sort must obviously be employed to keep the machine to its track and the top pressure in question is, of course, the air pressure on the upper sides of the wings.

The corresponding case with a horizontal circle gives a ratio of lift (normal to planes) to weight of machine of 1.74 to 1, which indicates that there is a 75 per cent. increase in the *under* pressures on the wings. At 80 miles an hour on a radius of 150 feet the *under* pressures are trebled for the horizontal circle while the *top* pressure on the wings would be nearly twice the weight of the machine in the event of a dive over such a curved path at this velocity. Or, when flattening out from a dive the *increase* in stress on the wings, from beneath, is itself more than twice the normal stress.

As Mr. Mervyn O'Gorman points out, these facts scarcely concern the conditions of normal flight, but some of them may very well apply to the state of things after a dive, when aeroplanes are quite commonly flying at speeds very largely in excess of their horizontal flight speeds—all of which goes to show that it is the pilot who is the principal factor of safety in flying a high-speed aeroplane.

A particularly interesting discussion on this subject of wing stresses, with particular reference to centrifugal action, took place



### Fast Huntingdon to Brooklands Trip.

HAVING decided to transfer his headquarters from Huntingdon to Brooklands, for the summer, Mr. W. B. R. Moorhouse brought his 50-h.p. Gnome-Blériot down by way of the air on Tuesday morning. He left Huntingdon at five minutes past seven, and after an hour's flying, passed over Hendon at a height of 7,000 feet. At Hampton Court he ran into a thick mist and had to come down in order to pick up landmarks, but arrived safely at Brooklands at 8.25, having covered the 80 miles in as many minutes.

### Aquaplane Tests at Barrow.

SOME good tests were made with the Avro aquaplane at Barrow Docks on the 18th inst., Mr. Sippe, first made a circular flight at a height of 80 feet, and then Commander Schwann piloted the craft for a trial above the Cavendish Dock.

### The Sanders Machine at Gosforth.

THE flying week which was to have been held at Gosforth last week was brought to a sudden conclusion by a mishap to Capt. Sanders and his machine on the 15th inst. He had got his biplane in flying trim, and rising to a height of 60 ft. flew outside the aerodrome in the direction of Killingworth, but was soon brought down by an air pocket. He restarted again, only to be brought down once more by the same cause, and this time the machine

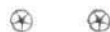
informally on Monday afternoon at the Aeronautical Society, during the course of which Mr. L. Howard-Flanders drew attention to a point that had not previously been emphasised. A given wing section, flying at a given speed, possesses a characteristic curve of loading denoting the intensity of pressure per unit of area for any given angle of incidence. Without going into the peculiarities of individual shape, we will assume that the maximum pressure is attained when the attitude is 90° to the direction of motion, and we will further assume that the flying attitude of wing gives rise to a pressure intensity of, say, one-fifth the value corresponding to 90°. The point Mr. Flanders urged was this, that by no conceivable means would it be possible to stress such a wing at the given speed by more than five times the usual stress.

Any attempt to pursue a curvilinear path such as would give rise to a centrifugal component exceeding five times the weight of the machine would in fact be frustrated by the machine itself side-slipping through the air. In other words, the wings are incapable of creating, at that speed, a pressure exceeding the above-mentioned maximum, and are consequently incapable of forming an abutment against which superior forces to the above could possibly be generated.

In order to apply this principle in practice to any given machine, it is necessary to know the characteristic of its wings, but even, as a mere generality, it is obvious that this is an important and interesting way of regarding the problem. It suggests, for example, that a steady going machine, flying at low loading and small angle of incidence, may have a latitude for possible stress that might exceed any reasonable factor of safety, whereas a fast heavily loaded machine might be automatically safe from too much *excess* stress, because both loading and angle are already great.

Of course, there is little doubt that the latitude for excess stress available in any machine is considerable, and it would seem probable that the centrifugal component is at times capable of bringing the whole of the range into play. But this fact is of small account, compared with the importance of having a limit at all. So soon as it becomes justifiable to accept a limit, so soon will it be reasonable to talk about factors and safety in the wing spars, and to try and get their design down to something like a satisfactory basis.

There is, of course, the speed factor to be taken into account as a disturbing influence that may upset all calculations, and although the question of head resistance may tend to put a limit on this also, nevertheless it is probably of such a high value as to be of no account. In fact it is the pilot who must for all time be relied upon not to exceed the maximum speed for which the machine is designed, and who must forego his trick dives and other fanciful evolutions of small purpose and much danger if the machine is to be spared. The human element comes into all problems, but the engineer does not ask more than that the liability from this cause should be limited to a fairly well-defined field. It would be already something if the manufacturer could feel that no manoeuvre carried out within the proper speed limits of the machine would be capable of wrecking its wing spars in mid-air, and it is an interesting question in the light of the foregoing argument to discuss whether a theoretical guarantee of this kind is not now available from the causes above mentioned.



running into a hedge, was considerably damaged. The pilot was thrown out and sustained a broken rib.

### Busson Flies from Pau to Paris in the Day.

NOT to be outdone by his *confrères* Vedrines and Prevost, Busson on his Deperdussin monoplane, made a splendid flight from Pau to St. Cyr on the 18th inst., and thus placed himself first by a very big margin in the competition for the Coupe Pomeroy. He left Pau at twenty minutes to six in the morning and at 9.45 landed at Chauvinière, close by Poitiers. He reported that his journey had been easy as far as Libourne, but after that he had been much troubled by the rain, and the wings of his machine were soaked. After taking a rest he restarted at two minutes past eleven, and at ten minutes past twelve arrived at Tours. He had had such a trying time that he decided not to continue his journey to Paris until the following morning, but during the afternoon the weather changed, and so at five minutes past five he set out in the direction of Chartres. All went well with him, and at ten minutes past seven he landed on the military grounds at Versailles. On the following day he flew over St. Cyr to Issy.

### Three French Balloons for G.-B. Race.

THERE will be no necessity for eliminating trials to select the team to represent France in the Gordon-Bennett balloon race, as only three balloons have been entered, *viz.*, those of MM. A. Leblanc, E. Dubonnet, and Willy Jourdain.

## GYROSCOPES ON AEROPLANES.

As Prof. John Perry remarked in the course of the discussion on the occasion of Mr. T. W. K. Clarke's paper on gyroscopic control, it is addressed to "the select few" who support the pioneer work in science by attending such meetings as that held by the Aeronautical Society last Wednesday week. In the early days of electricity, as Prof. Perry, who had that field almost to himself in this country, explained, real "problem papers" always exercised an eliminating influence on the general body of an audience that would attend discourses relating to the more popular sides of science. As a matter of fact, Mr. Clarke's paper aroused considerable interest, and if the number of those present was less than on previous occasions, it is really only fair to remark that former gatherings have seemed surprisingly large to those responsible for the organisation.

Mr. Clarke dealt with a subject that is vital to the future of flying, and it was particularly interesting to note the support that the author received in his contention that the gyroscope was fundamentally the proper principle to apply to the stabilizing of aircraft. Dismissing pendulum stability on the common grounds well known to our readers, there remained only to discuss the relative advantages of stabilising by design and by auto-mechanical means. Against inherent, or natural, stability Mr. Clarke levelled the usual criticism of inefficiency in the machine as a whole, and thus claimed an open field for auto-mechanical devices. Among these the pendulum is, of course, one, but so far as is known the gyrostat is the only other natural directive force of sufficient magnitude to compete with gravity. Mr. Clarke described and illustrated by means of a working model the apparatus that he and Mr. V. E. Johnson—who is well-known to our readers in connection with our Model Section—have evolved between them. An interesting discussion followed, but of this it is necessary only to draw attention to one criticism in particular which may be said to lie at the root of the difficulty of applying the gyrostat to aeroplane control. This particular point is that of neutralising the influence of the gyrostat when steering away from a straight course. Any angular change in the position of the axis of the gyrostat in space gives rise to the reactionary "kick," which in the Clarke-Johnson apparatus is used to switch on an electro-magnetic connection with an engine-driven appliance that manipulates the balance planes.

When the machine rolls everything may be supposed to work perfectly, but the question is what happens when you seek to turn a corner? Twisting the gyrostat in azimuth, *i.e.*, turning it as a whole by rotating its base in its own plane is equally effective in making the gyrostat kick, and the problem is to arrange so that this action shall not interfere with the control of the machine. Time prevented Mr. Clarke from dealing with this matter in his reply, but he promised to publish a full explanation of it at a later date, and therefore we await with interest his solution of the problem.

There is an even still more fundamental aspect of gyroscopic control, which rather escaped the discussion on Mr. Clarke's paper,

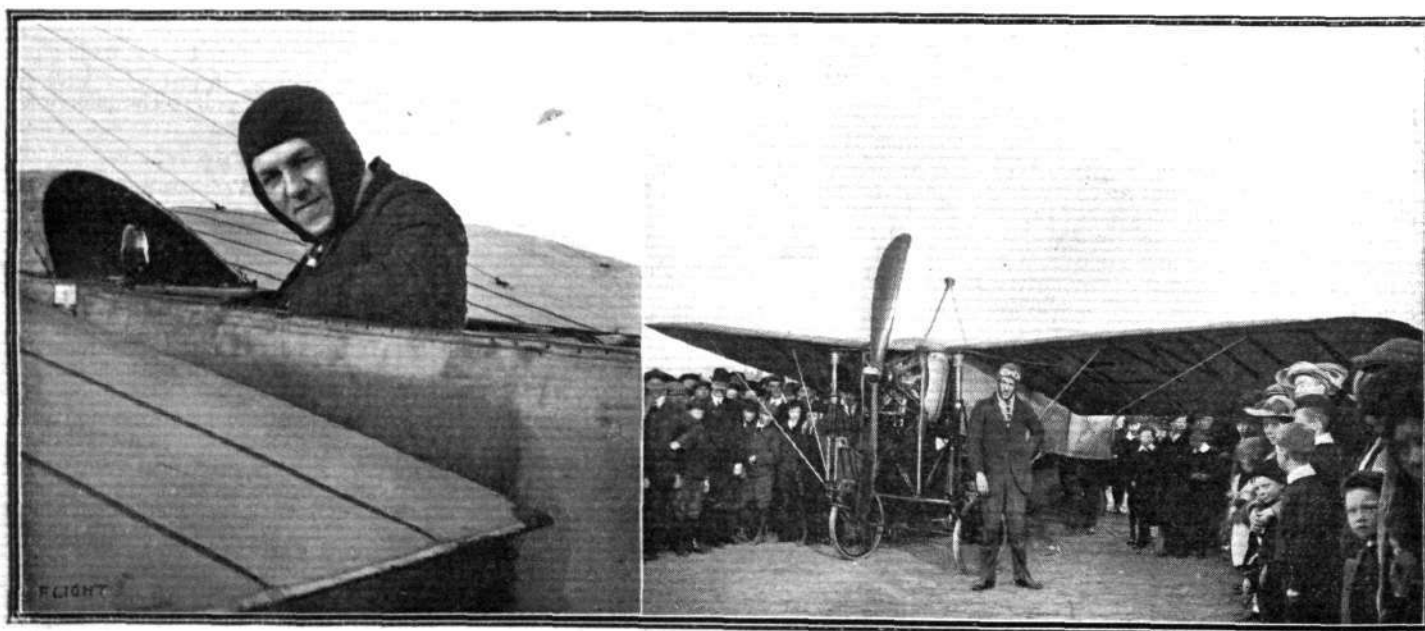
to which we would now refer. This is that if the reaction of a gyroscope is made to do useful work when moving in one direction, and is free from resistance when recovering, it will tend not to return to the same neutral point. It is obvious that this is a matter of the very greatest importance, inasmuch as even a slight inaccuracy would tend to become very serious if it happened that the machine tilted several times in the same direction.

Apart from considerations of dead weight, this puts the idea of using the gyroscope itself for the operation of the balancing planes altogether out of court, and it remains to be seen how far the use of a relay enables this difficulty to be overcome. It is possible, with an arrangement such as the Clarke-Johnson, to allow the gyrostat to operate against a very small resistance indeed, and one of such a character, moreover, that it is equal in both directions. Even so, however, we should like to know whether in practice such a gyrostat does not need some artificial means of coaxing it back to a true neutral position.

Again, the use of the relay itself has certain disadvantages that must be tried out in practice before it is certain that they are not too serious. One of them is the lag that would occur between the "cause and effect," due to the inertia of each separate moving part coming into action one after the other. A still more important consideration than this, however, appears to us to be the fact that a relay mechanism does not ordinarily permit of any variation in its *rate* of operation. By this we mean that any really simple relay mechanism is either full on or right off, and to some extent we imagine that this is a fundamental characteristic of any relay mechanism designed for extreme sensitiveness. In the control of an aeroplane, however, it would seem desirable, even if not absolutely necessary, to regulate the *rate* at which the balancing planes are moved. Sometimes it may be proper to act suddenly, at other times a gentle steady movement may produce better results.

We should like to hear what pilots have to say about this, because if such finesse should be the very essence of expertness, then it is going to be very difficult to obtain a similar effect from any auto-mechanical relay apparatus.

There is this, however, to be said in favour of the Clarke-Johnson device, *viz.*, that it is coupled up in a very ingenious way to the hand-control so that the pilot has the fullest possible liberty of independent manipulation. And, provided that there is no ill effect on the gyrostat from such interference then the automatic device might prove to be capable of giving valuable assistance. The whole subject is, however, one that essentially needs to be threshed out simultaneously from the theoretical and practical standpoints, and we are pleased to see that it is already in such thoroughly competent hands. Definite research work of this character is of the greatest possible service to the movement, and we hope that before very long the utility, or otherwise, of gyroscopic control will have been established in a very definite manner both by practical and also by theoretical investigations.



Mr. Vivian Hewitt and his Bleriot monoplane on the shore at Foryd, North Wales, where he has been making his fine flights for the past few months. Mr. Hewitt, at the time of writing, is waiting in the hope of flying the Irish Channel.



## ROYAL FLYING CORPS.

ON Tuesday night a special Army Order was issued detailing the rates of pay which it has been decided to grant to officers and others serving in the Military wing of the Royal Flying Corps. Officers (other than the commanding officers) will be graded, and receive pay at the following rates per day:—

	Ordinary pay.	Flying pay.
Squadron Commander ...	25s.	8s.
Flight Commander ...	17s.	
Flying officer ...	12s.	

The order continues that His Majesty the King's will and pleasure is that:—

"Flying pay may be issued during leave on the same conditions as staff pay. Subject to this, flying pay may be issued continuously to officers serving in the aeroplane squadrons and to officers who are qualified aeroplane flyers serving in the airship and kite squadron. Officers serving in the airship and kite squadron who are not qualified aeroplane flyers shall receive flying pay at the above rate for each day on which they make an ascent by airship or kite.

"2. The pay of other officers shall be as follows:—

Commanding Officer, Military Wing £800 a year with quarters.  
Medical Officer ... Pay and allowances of his rank.

"If the medical officer is required to fly, the Army Council shall decide what emoluments he shall receive with reference to the special circumstances of the case.

"3. The pay of the Staff of the Central Flying School shall be as follows:—

Commandant ... £1,200 a year, with quarters.  
Instructor ... The emoluments laid down for a Squadron Commander in Article 1.

Quartermaster... As laid down in Article 138 of the Pay Warrant.

"4. Officers shall be seconded for service in Our Royal Flying Corps from the date they satisfactorily complete such period of instruction at the Central Flying School as Our Army Council may prescribe. Whilst undergoing this period of instruction they shall receive the regimental emoluments of which they were previously in receipt, and shall in addition receive flying pay at the rate of 4s. a day.

"5. The period of an officer's service in Our Royal Flying Corps shall, subject to his remaining fit for flying duties, be 4 years, but it may be prolonged at the discretion of Our Army Council.

"6. Officers appointed from civil life to Our Special Reserve of Officers for service in Our Royal Flying Corps shall, whilst under instruction at the Central Flying School, be considered as on probation, and shall receive regimental pay at the rates appointed for infantry officers of Our Special Reserve of Officers, together with flying pay at the rate laid down in Article 4. Their period of service shall be as laid down in Article 5. On the satisfactory completion of the period of instruction prescribed by Our Army Council their commissions may be confirmed and they shall then be graded as flying officers. They shall thereafter be eligible to receive while employed on flying duties the emoluments laid down in Article 1, except when performing the quarterly flying test referred to in Articles 7 and 8. They shall also be eligible to receive an outfit allowance of £40 under the conditions prescribed for other officers of Our Special Reserve of Officers.

"7. Officers who are not serving continuously in Our Royal Flying Corps shall form the Reserve of Our Royal Flying Corps. The officers of this Reserve shall consist of two classes. Officers of the First Reserve shall be required to perform a quarterly flying test to be prescribed by Our Army Council. Officers who do not perform a quarterly flying test shall form the Second Reserve of Our Royal Flying Corps.

"8. Officers appointed to Our Special Reserve of Officers for service in Our Royal Flying Corps who are serving in the First Reserve shall in consideration of their holding themselves liable for service with Our Navy or Army at home or abroad, and of the performance of the quarterly test, receive in place of the gratuity of £20 issued to other officers of Our Special Reserve of Officers an annual gratuity of £50 payable under conditions to be prescribed by Our Army Council. Officers of Our Regular Army of the First Reserve of Our Royal Flying Corps shall receive for such number of days as may be found necessary (regard being had to weather conditions)

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### Entries for the Ae.C.F. Grand Prix.

THE minimum number of entries—ten—to ensure the Grand Prix race of the Aero Club of France being held have now been obtained, as a team of three R.E.P.s. and a trio of Sommer machines have been nominated. These, with the five Moranes and three Deperdussins, make a total of fourteen entries to date.

Some dissatisfaction having been caused by the rule giving time bonuses according to the useful load carried, the Aero Club of France

for the proper performance of their test, the regimental emoluments of their rank, together with flying pay at the rate laid down in Article 1.

"9. Officers of the Second Reserve shall receive no special emoluments as such.

### "Warrant Officers, Non-commissioned Officers and Men.

"10. The daily rates of pay of men enlisted or transferred to serve in the Military Wing of Our Royal Flying Corps shall be as follows:—Warrant officer, 9s.; serjeant, 6s.; first class air mechanic, 4s.; second class air mechanic, 2s.

"They shall in addition be eligible to receive flying pay at the rate of 4s. or 2s. a day according to their flying proficiency under such conditions as may be laid down by Our Army Council. Warrant officers and others serving in the airship and kite squadron shall, unless they are qualified aeroplane flyers, receive flying pay at the rate of 2s. a day for each day on which they make an ascent by airship or kite.

"11. Warrant officers, non-commissioned officers and men of Our Royal Flying Corps Special Reserve shall receive pay and flying pay at the same rates and under the same conditions as under Article 10, when employed on Army duty. Whilst undergoing an enlistment instruction in flying at the Central Flying School, they shall draw the rates of pay laid down in Article 10, and in addition flying pay at the rate of 1s. a day.

"12. Warrant officers, non-commissioned officers and men, other than those serving continuously in Our Royal Flying Corps, shall, if performing the quarterly tests to be prescribed by Our Army Council, be granted annual gratuities as follows:—

"a. Whilst serving with the colours, £10.

"b. Whilst serving in Our Army Reserve, or in Our Special Reserve, £20.

"Warrant officers, non-commissioned officers and men serving in Our Army Reserve or Our Special Reserve who do not engage to perform the quarterly test to be prescribed by Our Army Council, shall be granted a gratuity of £10. The conditions and method of issue shall be determined by Our Army Council.

"13. Army reservists shall not, in addition to the gratuities payable under Article 12, be entitled to pay under Article 1199 of the Pay Warrant, and warrant officers, non-commissioned officers and men of Our Royal Flying Corps Special Reserve shall not be eligible to receive recruits' bounty, training bounty or non-training bounty.

### Gratuities and Special Pensions.

"14. Officers who are—

"a. Members of Our Royal Flying Corps,

"b. Members of Our Special Reserve of Officers (Royal Flying Corps),

"c. Undergoing a private course of instruction, having previously been selected by Our Army Council for military flying work,

"d. Undergoing a course of instruction at the Central Flying School.

shall if injured on flying duty, be eligible for gratuities and pensions under the conditions and at the rates laid down in the Pay Warrant for officers who have been wounded in action.

"In the event of death within 7 years as the result of injuries so received, pensions, &c., may be awarded to the officer's widow and children or other relatives, under the conditions applicable to the case of officers killed in action or dying of wounds received in action.

"15. Warrant officers, non-commissioned officers and men of Our Royal Flying Corps, or of Our Royal Flying Corps Special Reserve, discharged in consequence of injuries received on flying duty shall be eligible for pensions under the conditions and at the rates laid down for their respective ranks in the Pay Warrant in the case of men discharged for wounds received in action.

"In the event of death within 7 years as the result of injuries so received, pensions and compassionate allowances may similarly be awarded to the widow and children of a warrant officer, non-commissioned officer or man."

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has decided to offer a further sum of 20,000 francs, which will be awarded according to the classing on speed alone.

### An Aviation Museum at Versailles.

AT the military aviation school at Versailles, Col. Hirschauer has got together the nucleus of what is hoped will become an aviation museum. At present the exhibits consist mainly of old propellers and portraits of military aviators.

# The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

## Government Scheme for Naval and Military Aviation.

A CIRCULAR has been issued by the Club to all aviators, inviting them to attend a Conference to be held at the House of Commons, on Tuesday next, the 30th inst., at 6.30 p.m., when Col. Seely, the Under-Secretary of State for War, will take the Chair.

The Committee of the Royal Aero Club is of opinion that the Government scheme should be carefully considered by all certified aviators and by those who contemplate taking their certificates with a view to offering their services subsequently to the Government.

The Conference will be held in one of the Committee Rooms, and those attending are requested to meet in the Central Hall at 6.20 p.m. Those desirous of attending are requested to notify the Club at the latest by the first post on Tuesday morning, as all names have to be officially communicated beforehand.

## Rolls' Memorial at Dover.

The Duke of Argyll, the President of the Club, will unveil the statue erected at Dover to the late Hon. C. S. Rolls, on Saturday, the 27th inst., at 2.30 p.m. Members are cordially invited to assist at the ceremony. The Royal Aero Club will be represented by Mr. J. T. C. Moore-Brabazon and the secretary, Mr. Harold E. Perrin.

The funds for this statue have been subscribed by the many friends of the late Mr. Rolls, and the arrangements have been carried out by Mr. Walter Emden, who was the Mayor of Dover at the time when Mr. Rolls made his double cross-Channel flight.

The statue was designed by Mrs. Scott, the wife of the famous Antarctic explorer.

## Aeronauts' Certificates.

The Hon. Mrs. Assheton Harbord made a solo ascent on Sunday last to qualify for an Aeronaut's certificate. The ascent was made from Battersea and the descent a few miles from Maidenhead.

## Presentation to the Club.

Mr. C. G. Grey has kindly presented to the Club an enlarged photograph of the late Mr. D. G. Gilmour.

Capt. E. W. Wakefield has presented to the Club a collection of interesting lantern slides depicting his hydro-aeroplanes on Lake Windermere.

Col. H. S. Massy, C.B., has also kindly presented "La Route de l'Air" together with 50 lantern slides dealing with the progress of aeronautics, and including interesting diagrams.

## Library.

M. Eiffel's book, "La Resistance de l'Air et l'Aviation," has now been added to the Club Library.

## Hurlingham Balloon Contests.

The following dates for balloon contests at Hurlingham have been fixed:—

Wednesday	...	...	June 12th, 1912.
Saturday	...	...	June 22nd, 1912.
Saturday	...	...	July 13th, 1912.

Members of the Royal Aero Club are admitted free on these dates on production of their membership cards.

## Royal Aero Club v. Royal Automobile Club Golf Match.

Arrangements are being made for a golf match between the Royal Automobile Club and the Royal Aero Club to be played early in June. Members of the Royal Aero Club wishing to take part are requested to send in their names and handicap to the secretary. The match will be played on handicaps.

166, Piccadilly.

HAROLD E. PERRIN, Secretary.

## AIRSHIP NEWS.

### "Gamma" Visits London Again.

ON the early morning of Monday, the reconstructed Army airship "Gamma" paid another visit to the metropolis and circled round St. Paul's. Capt. Maitland was in charge, assisted by Lieut. Waterlow, while in the engine room were Mr. Irving and Corporal Scovell, with Capt. Allen and Lieut. Carfrey as passengers. Farnborough was left at 6.15, and, pushing her way through a head wind, the airship reached St. Paul's about 8.30. Turning above the Cathedral, she then started back on her return journey, and, with the wind behind, was soon out of sight, Farnborough being reached again in 57 mins.

### A Mishap with the "Beta."

AFTER her return from London, the "Gamma" was placed in the large hangar and preparations were made for bringing out the "Beta." The two airships were moored side by side, and great care was being taken that they should not touch one another. In some way, however, the "Beta" was taken too near the side of the shed, with the result that the envelope caught on a projection and a piece of the fabric was torn out, causing the gas to escape and the envelope to collapse. Fortunately the car was resting on the ground, and so beyond the rent in the envelope no further damage was done.

### High Flying on the "Gamma."

FOR several days previous to her visit to London the "Gamma" had made several good flights at Aldershot. On the 19th inst., with seven passengers on board, she was up to a height of a mile. The "Beta" was also out with a full crew while the three Army aeroplanes made several tests. On Saturday morning the "Gamma" with Capt. Broke Smith in command was up to a height of a thousand feet and flew to Haywards Heath and back.

### A 300 kilom. Trip by "Capitaine Ferber."

ON the 18th inst. the Zodiac dirigible "Capitaine Ferber" started from Issy and visited Villacoublay during the time the Minister of War was inspecting the avions or military aeroplanes. It then set off for its new headquarters at Toul, a distance of about 300 kilom., which was traversed, without incident, in 5 hours 45 minutes. The Dausette-Gillette engines gave entire satisfaction during the trip.

### Studying the Eclipse from the "Victoria Louise."

ON Wednesday week the Zeppelin dirigible, "Victoria Louise," left Frankfort at 8.35 a.m. with 15 passengers, including two astronomers who it is suggested intended to study the solar eclipse from an elevated position. Following the course of the Rhine, Coblenz was passed at ten o'clock, Bonn at 10.45, Muelheim at 11.10 and Dusseldorf at 11.45. The airship then made a circuit over Duisburg, Crefeld and Neuss, and was back again at Dusseldorf at half past one and landed safely a quarter of an hour later. On the following day the return journey was made to Frankfort, with 19 passengers on board, but instead of going back direct the dirigible was steered to the left and after passing Bonn followed the Sieg Valley. Limburg was passed in three hours, while after four hours and twenty minutes travelling a safe landing was made at Frankfort.

### Bomb-Dropping from "Capitaine Ferber."

WITH eleven persons on board, the French military dirigible "Capitaine Ferber" the other day made a three hours' cruise, during which she passed over Aulnay, Drancy, Louvres, Survilliers, Chantilly, and Issy. On the following day she was cruising for an hour and a half at Issy, during which, under the superintendence of Capt. de Forge, some bomb-dropping experiments were carried out.

### A Mishap with the "Schüttz-Lanz" Airship.

ON the 13th inst. with thirteen passengers on board the dirigible "Schüttz-Lanz" left its headquarters at Rheinan, south of Mannheim and cruised in the direction of Schwetzingen. About half an hour later something apparently went wrong with the steering gear as the airship dived down to earth. The forward car hit the ground so hard that the occupants including the designer, Prof. Schütte were thrown out. Relieved of the weight of these half a dozen people, the airship again rose to a great height but as the motors could not be got to work she drifted before the wind. The passengers in the rear car got to work with the gas valves and eventually brought the vessel down at Trip, the wooden framework of the dirigible, which it will be remembered is on Zeppelin lines being further damaged by collision with some trees. After this the wind moderated and with the help of some soldiers the dirigible was towed back to its shed.



## FROM THE BRITISH FLYING GROUNDS.

## Brooklands Aerodrome.

ON Wednesday last week work started early. At the Bristol school, Pizey took up pupils for tuition, and then Mackworth, who was anxious to go for his *brevet* tried a few circuits, but found it too gusty. Colonel Hotchkiss was rolling on Vickers No. 2 in the morning. Lieut. Porte was out for a few minutes on the Deperdussin racer, and afterwards Petre on a similar machine. Later in the day Fisher went up on the Flanders monoplane in a bumpy wind. In the evening Mackworth passed the first series of tests for his *brevet* on a Bristol biplane, and Fleming was giving tuition on the same machine.

On Thursday, Col. Hotchkiss was again rolling on the Vickers. Duigan on his Avro flew a number of circuits, Pizey on the Bristol biplane was giving tuition, and then handed the machine over to Mackworth, who successfully completed the tests for his *brevet*. Lewis, a new pupil, was rolling well. C. L. Pashley brought out the Humber monoplane, flying a few circuits at a fair height. The Flanders monoplane was out several times with Fisher piloting, and later, Manning made some excellent straight flights on his machine. At the Deperdussin school, Chinnery passed the tests for his *brevet*, and C. C. Turner was rolling, bringing his operations to an end by suddenly swinging round and catching the steel tubes supporting the extensions of the Bristol biplane with his wing-tip. The Deperdussin was undamaged, but the biplane had the outer sections of both top and bottom planes rather badly smashed. Raynham, on the Burgess-Wright, put in a lot of tuition work with pupils, and the old Howard-Wright biplane, on which Sopwith won the Baron de Forest prize over a year ago, was out again, flying quite well. The pilot and passenger now sit side by side, while dual control has been fitted for instruction of pupils.

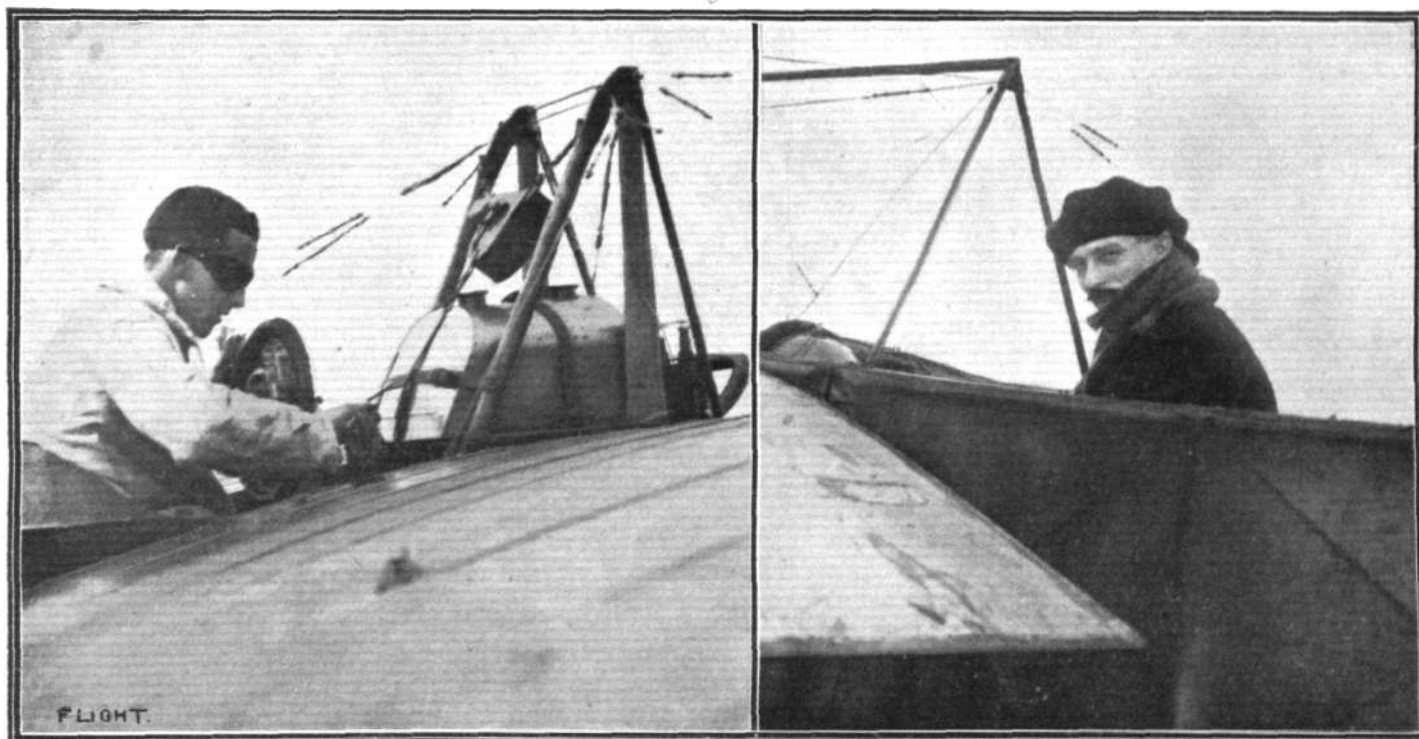
On Friday the Bristol school was busy as usual, though their stock of machines had been reduced to one only. In the early morning Ducrocq flew over to Farnborough, returning towards evening. At the Flanders school Manning put in some time at straight flights, getting higher than he had before and keeping very steady. Petre and Sabelli were both out on Deperdussins. Spencer, on his biplane, was flying for about half an hour.

Saturday was a busy day, but owing to several casualties amongst machines, not so interesting as the previous week-end. Before breakfast Duigan passed his *brevet* tests on the Avro biplane, with a 35-h.p. E.N.V. motor, reaching 220 ft. in his height test. He finds his machine so underpowered that it is only under the best weather conditions that she will do more than just struggle round a few feet of the ground, so that all the more credit falls on him for this flight. Parke on the larger Avro with a 60-h.p. E.N.V. was flying well at over 1,000 ft., and decided to start later for Hendon. At about

2 p.m. he set off taking Sayers with him as passenger. Unfortunately the engine was not pulling its best, causing him to drop rather while making a preliminary circuit of the aerodrome; just as he was about to land a *remous* dropped him and he struck the ground at about the gliding angle of the machine, wiping off the wheel-base and damaging the planes and fuselage. The latter rolled over on its side causing the radiators beside the passenger to fold in over the cockpit effectually trapping him so that an emergency exit had to be made through the side. Luckily, neither pilot nor passenger were hurt. Mrs. Hewlett was also out for some time on the Farman built for Snowden-Smith. At the Deperdussin school Lieut. Porte and Sabelli both made long flights on the racer, and Petre was out several times on the *brevet* machine. Pizey, on the Bristol, was instructing pupils most of the day, but found time in the afternoon to win the cross-country handicap to Chertsey and back. This race did not prove so interesting as on the previous Saturday, there being only three starters, Sopwith on his 70-h.p. Blériot, Raynham on the Wright, and Pizey on the Bristol biplane, with Lane as passenger. The small number of entries was due to several machines being out of action. Spencer ran into a fence early in the afternoon, breaking his elevator. He then tried Blondeau and Hewlett's racing Farman, but though he flew several circuits found that it would take him some time to get really used to it. The Pashleys, who had entered for the race, could not get their engine to run properly, and Fisher had injured his arm in a cycle accident. The schools were all busy during the day. At the Bristol, Major Bannerman made some excellent solo flights, and Lewis did a number of straights. In the morning Valentine flew over to Hendon on his Bristol monoplane, taking Charteris with him. Manning was making good straight flights on the Flanders during the evening.

Sunday was rather windy except in the early morning, when Fielding passed for his *brevet* on a Bristol biplane. Lewis on the same machine made some good straight flights. In the afternoon, Raynham had an alarming experience on the Burgess-Wright. While flying at a height of about 60 ft. a cylinder blew off the Gnome motor, which is behind and slightly to one side of him. The cylinder carried away a large piece of the engine bearer, just missing the elevator control wires by a hair's breadth. The broken piece of bearer lifted Raynham's cap off without touching his head, and various holes were made in the planes, &c. Raynham managed to bring off an excellent landing in spite of this exciting occurrence. Sabelli was out for nearly half an hour on the Deperdussin racer during the afternoon, and Pizey on the Bristol was instructing pupils.

Monday morning was nice and calm. Mrs. Hewlett was again out for a long time in the racing Farman, and Lieut. Porte on the



Mr. H. Petre, of the Brooklands Deperdussin School, starting off for a flight on the *brevet* machine.

Lewis Turner, chief pilot of the Grahame White School, is learning to fly the Blériot.



Deperdussin racer flew over Addlestone for about 20 minutes. At the Bristol school, Pizey gave some tuition to Sheppard, sitting in the passenger's seat so that the pupil could get used to the rudder. Major Bannerman passed the tests for his *brevet* during the early morning, and Lewis made his first circular flights, being up for about ten minutes. The rest of the day was too windy for flying.

Next morning was again calm. Moorhouse turned up early on his Moorhouse-Radley monoplane, which is of the Blériot-type with some distinctive features, such as the plan form of the wings and the wind-shield round pilot. He had flown over from Huntingdon and found it very foggy west of London, though when passing over Hendon, at about 6,000 ft., the mouth of the Thames was quite visible. In consequence he lost his way near Kingston, but managed to pick it up again at Hampton Court. Tuition work was carried out at the Bristol School, but it soon became too bumpy for pupils. Smith Barry, a Salisbury pupil, was out on the biplane, and found Brooklands air very different to the Salisbury Plain variety. The week-end handicaps having proved so successful, it is proposed to hold a series of competitions every Saturday. The programmes will probably include bomb-dropping, quick get-offs, landing, and other contests, besides handicap races. For this purpose the aviators are getting up a small club amongst themselves, and the Brooklands Automobile Racing Club have offered to put up small prizes every week that flying takes place. This should make the week-end flying much more interesting both to pilots and spectators.

## Eastbourne Aerodrome.

WEDNESDAY last week Yates, Gassler and Fowler were all out. Fowler went up in the new machine with oil turned off, discovered oil was not working near Pevensey, where he came down, turned oil on again and with the help of some villagers restarted. Meantime, the mechanics seeing machine had disappeared, started to the rescue in a car, but arrived just in time to see Fowler leave the ground. Thursday, Yates and Fowler were both out early, Yates did some climbing and Fowler went for a tour round the neighbourhood. After breakfast, Yates decided to try for his certificate, Capt. Danvers and Mr. Chapman, two of the local observers appointed by the Royal Aero Club, kindly came down. Yates, however, had no luck. His engine failed shortly after he left the ground and he landed in a dyke. The machine turned completely over and was smashed to pieces, Yates being thrown some 30 ft. He had a nasty shaking and dislocated his wrist. Fowler was up again in the evening doing fairly short left-hand turns. Friday, Gassler and Fowler went out in the evening. Fowler made a bad start and broke one of the shock absorbers between the front wheels, but notwithstanding he managed to get off safely, everyone expected a smash when he landed as the front wheels were quite out of line. The machine, however, stood up well and with the exception of a bent front fork no damage was done. Yates' wrist is progressing favourably.



Mr. Herbert Spencer, who took part in the handicap races at Brooklands on the machine which he has re-constructed from the Macfie biplane.

## Filey School (Blackburn Aeroplane Co.)

UNTIL Thursday last week the wind was too strong for any flights to be attempted. However, Brereton took out the Isaacson-engined Blackburn and flew at a good altitude hampered by a 20-mile-an-hour wind mixed with a fair fog.

Friday was a magnificent day, and both the Gnome and Isaacson-engined machines were out. Scott opened with a steady 2½-miles flight about 50 feet up to Filey, returning in the same manner. De Villiers then took charge of the Isaacson and made a long flight to Filey, well up. However, in landing from about 40 feet, he accidentally switched off when three feet from the ground. A pancake was the result, "doing in" a skid and two struts. The machine had to be hauled back three miles to the hangar. The wind had risen considerably when Brereton started off on the Gnome, with a passenger, flying splendidly. The stability of the Blackburn machine was remarked upon by all the spectators, for although the wind was on the beam, it had hardly any effect on the machine's forward progress. In all, Brereton made 21 flights, carrying a passenger on six occasions. He bids fair to become one of our best pilots this season.

Saturday was spent in repairing the damaged machine, and on Sunday Brereton made a test flight, but owing to a defective skid, the chassis was unable to do its work, and the left side collapsed. Both on Saturday and Sunday the air seemed to have very little buoyancy, and frequent drops in altitude were experienced.

## Liverpool Aviation School (Waterloo, near Liverpool).

BIRCH had out the school Anzani-Blériot on the 17th for rolling practice which was very satisfactory. Next day Hardman made several straight flights, two of which were half a mile in length, and also completed half a circle. He, on the 19th, also made very pretty flights of half a mile each in nasty wind, making perfect landings. A 55 seconds straight flight and also several shorter flights were put up by him on Saturday, whilst Birch was out rolling on the Anzani-Blériot, steering her remarkably well.

Hardman, on Monday, did a couple of straight flights about a quarter of a mile each, but finding the wind tricky from the east brought the machine in.

## London Aerodrome, Collindale Avenue, Hendon.

**Grahame-White School.**—Messrs. Hucks and Manton on Tuesday last week were out on biplane No. 4, Mr. Hucks flying several circuits and Mr. Manton rolling. Next day Mr. Lewis Turner on biplane No. 5 took up a photographer, afterwards making several solo flights. Mr. Hucks on monoplane No. 6 made several circuits and a cross-country flight during the day. Mr. Lewis Turner was also out for test flights on biplane No. 1.

Thursday was a perfect flying day, and the school was hard at it all day. Mr. Manton and Major Liles were making many straight flights on biplane No. 3, Messrs. Fowler and Biard circuits, and Messrs. Roupelle, Morris, and Shephard all rolling on the same machine. On biplane No. 1, Mr. Hucks and Mrs. Stocks were busy at circuits, Messrs. Biard and Manton at straights, and Mr. Roupelle rolling. Mr. Lewis Turner on biplane No. 5 gave instructions to the pupils, and made several passenger flights. Mr. Hucks and Mrs. Stocks also put in useful work on the same machine. Mr. Grahame-White was on biplane No. 10 for a test flight, and found several adjustments necessary. Machine was consequently returned to works. Mr. Lewis Turner made further tests later. Mr. Hucks also on monoplanes Nos. 4 and 6 made several circuits.

Mr. Grahame-White on Friday was testing his Grahame-White "Baby" biplane, afterwards going up with a lady passenger on biplane No. 5, followed by Mr. Lewis Turner, who made two passenger flights on the same machine and then in the pilot's seat of biplane No. 10, executing fine right-hand turns and landing *en vol plane* in great style, afterwards flying to the assistance of Mr. Grahame-White, who had landed on a piece of bad ground and damaged the skids of his machine. Mrs. Stocks and Mr. Biard were also out on No. 10, Messrs. Morris, Roupelle and Shephard rolling on biplane No. 3, and Mr. Manton doing circuits, the day being closed by Mr. Lewis Turner giving passenger flights to several pupils.

In the morning on Saturday, Mr. Lewis Turner was at work at circuits on biplane No. 5 making test flights. In the afternoon the Spring Aviation Meeting occupied attention, the doings thereat being handled elsewhere in this issue.

**Blériot School.**—The past week has been the best on record for school work, on each day a large number of pupils of the school being able to practice, Messrs. Welburn, Thomsen, Morris, Pothet, Teulade, and Clappen all putting in excellent work.

On Tuesday morning, 16th inst., M. Lucien Tremlett was on the ground at 5.30 a.m. and took his certificate, in the presence of Mr. W. H. Ewen and Mr. George Prensier. Four of the pupils, Messrs. Welburn, Pothet, Thomsen, and Aubert have had especially good practice, and are all practically ready for their certificates, having been practising circuits and eights and *vol plané* descents.

**W. H. Ewen School.**—On Wednesday last week Messrs. H. H. and J. H. James joined the school. The wind was too high all day for out-door practice, and school work was confined to the sheds.

On Thursday morning the pupils were all out early getting in good practice. Messrs. H. H. James and J. H. James both made straight rolls at their first attempt, and H. S. Gist was flying straights for the first time. In the afternoon, M. Rene Caudron arrived from France, and the little 35-h.p. Caudron biplane was quickly tuted together.

On Friday morning the weather was ideal, and most of the pupils were out at 5 a.m., getting in good practice. In the afternoon, the little Caudron biplane was brought out, and M. Rene Caudron gave a wonderful exhibition, impressing everyone by his skilful handling of the machine, after which Ewen made his first biplane flight, apparently with the greatest ease. In the evening, Ewen, for his second trip on the machine, took her across country, with the intention of rounding Harrow Hill. Nearing his turning-point he encountered air of a very funny character, and climbed rapidly to avoid the *remous*. By the time he had finished climbing, he found that Harrow Hill had disappeared, or, apparently so, from his point of view. However, he made what he thought to be a complete left-hand turn, and continued on, expecting to catch sight of the aerodrome at any minute. It, however, failed to come in sight, and at the end of half-an-hour's flying he decided to come down and find out his exact location. Two rustics volunteered information. One said Harrow Hill was in this direction, and the other said it was in that, they indicating routes subtending to each other an angle of about 60°. Ewen took the course bisecting that angle, and followed it for about half an hour, without getting any nearer home. He came down once more, this time on a golf course. Even there, amongst fairly well educated people, there was a considerable range of opinion as to in what direction Harrow Hill lay. One, however, of their number had the gumption to recommend Ewen to follow a railway line, which would take him to Harrow, where he could branch off and reach the aerodrome. He reached Harrow without event, but at that juncture his petrol gave out, and he was forced to plane into a field. Mechanics and petrol were summoned hastily by telephone, for it was then getting late in the evening, and dark was approaching. Thanks to the great efficiency of our telephone system, it was not until eight o'clock that these necessities arrived. Filling his tanks, Ewen sent one of his men to the far end of the field—it was quite a short one—to indicate the level of the top of the hedge with a lighted match. Meanwhile at the aerodrome flares had been lighted and rockets were being discharged to guide the wanderer to his home. He reached his destination, landing when it was quite dark, at half-past eight.

On Saturday morning Lieuts. Kerrich and Pennycuik and Messrs. H. H. and J. H. James, Ware, "Edmund" and Miss Prentice got in some good practice. Lieuts. Pennycuik and Kerrich were able to get in some good practice on Sunday morning before the wind rose. The pupils were again out for practice on Monday morning.

Tuesday was windy all day and the pupils were busily engaged in assisting in the hangars. Lieut. S. H. S. Moxley, a new naval pupil, joined the school.

#### Salisbury Plain.

**Bristol School.**—Nothing of importance was done Monday morning last week, the wind being far too strong. A change had come about by the afternoon, however, and work was resumed. Mr. Pixton was the first out, flying for two circuits on the Bristol military two-seater monoplane, Jullerot afterwards ascending on the same machine, and making a wide circuit at from 600 to 700 ft. The wind was still rather tricky, and it was not until 5 o'clock that any school work was done. This was started off by Mr. Smith Barry, an old Bristol pupil, who made a good solo flight on one of the school biplanes, Lieut. Ashton following him on a similar type machine, as also did Mr. Jennings. Pixton made a circuit on one of the two-seater monos., after which Lieut. Antonini started off on the same machine and made a really fine flight completing two circuits at from 300 to 400 feet, covering a distance of about 20 miles, eventually landing very neatly. Gordon England was on one of the tractor biplanes, the machine flying splendidly, whilst Messrs. Pixton and Jullerot were on one of the two-seater monoplanes, each making good flights, and landing by means of *vol planés*, with engine completely cut off. Bendall, with a mechanic as passenger, made a

short circuit on biplane No. 55, whilst Lieut. Antonini was out for another trip on the monoplane, showing himself to be complete master of the machine, banking steeply, and bringing his machine to earth in a graceful manner.

At 6.45 flying was again resumed, Senor Campana setting out for a solo on the single-seater monoplane, but unfortunately he landed rather heavily and buckled up a wheel. Bendall flew over to where he had descended, taking with him a mechanic, and the machine was brought back to the hangars.

Tuesday morning was very gusty and little work was done. Jullerot made a trial on one of the school monoplanes, rising to 1,000 feet and landing by means of a clever *vol plané*. Pixton was also on a monoplane flying for about ten minutes, with Lieut. Hall as passenger. Later, Mr. Smith Barry was piloting a biplane, banking the machine steeply and flying for a couple of circuits. The wind had risen by this time and further work was abandoned.

In the evening Jullerot made a trial, afterwards ascending with Lieut. Ercole, the pupil being given complete charge of the machine. Lieut. Rinaldi was taken for his first tuition trip by Jullerot on No. 55, Bendall being out for his first trip on one of the tractor biplanes, performing very well, making good landings. Lieut. Antonini gave a fine exhibition in the two circuits he made on the monoplane, and Mr. Smith Barry put up a good show on the biplane. The day's work was brought to a conclusion by Gordon England making a flight on one of the tractor machines.

Jullerot made a trial Wednesday morning, but found the wind too strong for any sustained flying.

There were a number of distinguished visitors at the school in the afternoon, and Jullerot made an ascent, but decided to postpone further flying until the wind had dropped. At 5 o'clock this same instructor made a circuit with one of the party as passenger, after which he went up for a high flight on one of the two-seater monoplanes. Jullerot ascended again on this same machine with Sir Alfred Hickman, and also with Lieut. Gallaher (two prospective pupils), a flight being also given to another of the party of visitors. Lieut. Rinaldi was taken for tuition flights by Jullerot on one of the school biplanes, the instructor flying for a circuit on a two-seater monoplane with Capt. Hardy. Lieut. Antonini first of all made a



Pizey and Garne on the Bristol biplane in a handicap race at Brooklands.



couple of circuits alone on a two-seater monoplane, and then went out with Lieut. Ercole as passenger, making good flights each time. Gordon England was flying a tractor biplane, after taking up a passenger in the same machine. Gordon England then ascended with Sir Alfred Hickman on biplane No. 55. Messrs. Smith Barry, Jennings, and Bendall were all out for solos on tractor biplane No. 64, and three good solos were made by Lieut. Hall on biplane No. 43, Bendall being out with Lieut. Rinaldi on No. 55, whilst Lieut. Ashton afterwards flew several good circuits on biplane No. 43. Gordon England landed at Fargo with one of the tractor machines, and Jullerot and Smith Barry flew over to see what was the matter, afterwards both biplanes flying back to the hangars.

Thursday morning saw Gordon England out early, making two solos on a tractor machine, whilst Jullerot closely followed him on a biplane, the latter giving a tuition flight to Capt. Grace, this pupil then setting out for his first solo flight, which he carried out very successfully, landing very well. He also set out for another trip, which was accomplished as successfully as the first. Lieut. Rinaldi was given a flight by Jullerot, Bendall being out on a tractor machine. Mr. Smith Barry was up for a fine solo on No. 66, Jullerot afterwards taking this machine up to a good height, and coming to earth by means of a spiral *vol plané*. This concluded the morning's work.

Jullerot in his evening trial flew over Amesbury at a height of about 800 ft., Gordon England in the meantime ascending with a passenger on tractor biplane No. 64, and describing several figures of eight with sharp bankings. Lieut. Hall was then up for a solo on No. 66, Capt. Grace also flying for two circuits. This latter pupil has only been at the school about four or five days, but has made splendid progress. Lieut. Ashton made two solos, having a brother officer in Lieut. Saunders as passenger. Jullerot gave tuition flights to Lieut. Hartraa, Lieut. Gallaher, Sir Alfred Hickman, and a cousin of one of the pupils, afterwards making a solo. Mr. Jennings was out for a flight on the tractor biplane No. 64, Bendall also ascending on this machine. Mr. Smith Barry was unfortunate in landing heavily after a fine flight on the tractor biplane, but escaped with little damage to the machine. Nothing further was then done.

Jullerot was out first thing Friday morning, followed by Gordon England, Mr. Smith Barry being out as well on biplane No. 66. Two good solos were made by Capt. Grace, whilst Lieut. Hall was also out for a flight.

Mr. Smith Barry was the first up in the afternoon, flying on biplane No. 55, whilst Jullerot gave flights to Capt. Corder, Lieuts. Wall and Marshall, Pixton flying with Lieut. Hartraa. Lieut. Wall was also given a flight by Gordon England, the instructor then taking Mr. Lang up with him, whilst Lieut. Ashton made a good solo, followed by Capt. Grace.

Saturday morning was fairly favourable, and Lieut. Hartraa

accompanied Bendall for three circuits, this instructor afterwards ascending with Capt. Grace and then with Capt. Corder in order to give them practice in making right-hand turns. Gordon England was flying with Capt. Corder and Lieut. Wall, and Jullerot with Lieut. Rinaldi, Lieut. Wall, Capt. Corder and three visitors. Three good solos were made by Mr. Smith Barry, who then took up Lieut. Hartraa for a flight. Solos were also made by Lieut. Head, Mr. Dacre, Lieut. Hall on biplanes, Lieut. Antonini being on the monoplane. Pixton was up testing a monoplane just received from the works at Filton, the machine being found to work splendidly, in fact, in typical Bristol fashion. Lieut. Ercole was doing good work on one of the little single-seaters, a machine he has now learned to manage very well.

Sunday morning saw Gordon England making a solo, and then giving a tuition flight to Lieut. Hartraa, as well as taking up Mr. Lang. Pixton was also flying with Lieut. Hartraa, Jullerot making a solo on No. 66. Lieuts. Head and Ercole carried out two good solos on single-seater monoplanes, Mr. Smith Barry carrying out a fine flight on a biplane at fully 1,000 ft. A solo was made by Mr. Dacre, during which Bendall took Lieut. Hartraa and Lieut. Rinaldi for instructional trips.

**Royal Flying Corps.**—On Wednesday of last week, the unsettled weather confined work to the hangars, where the monoplanes were having their upper stays strengthened. Macdonald had the Vickers-R.E.P. monoplane out for a test. On the following morning he was out early flying round the camps, and Lieut. Hynes brought out his machine "B 3," and made several flights with a passenger at a good height, until his engine began to give trouble. Friday was a beautiful morning, and the first out were the Vickers machine and Capt. Fulton, who put in some scouting practice on "F 4." Capt. Fulton then changed over to his old 25 h.p. Ananzi-Bleriot, which is being fitted up for use by pupils. Lieut. Hynes was up to a height of 1,400 ft. on his Breguet, and made several good flights, although towards the end the motor was not doing any too well. Capt. Fulton was first out on Saturday morning, and by way of testing the weather took "F 4" round Fargo, Rollaston, and Stonehenge. He then made several trips with a passenger, after which Lieut. Connor took over the machine, and getting to a height of 1,000 ft., flew round Knighton Downs. Afterwards, changing over to the old Bleriot, he put in some rolling practice on the monoplane. Lieut. Hynes then, on Breguet "B 3," was flying for 25 mins. 1,600 ft. up. This was followed by a flight with a passenger. Macdonald made a couple of trips, one of 20 mins. duration, on the Vickers-R.E.P. monoplane, which were witnessed by Capt. Wood. Lieut. Connor on "E 4" and Lieut. Hynes, "B 3," were each out on Sunday morning, but in neither case were the motors giving complete satisfaction. On Monday, after the engine of Lieut. Hynes' Breguet had been overhauled and tuned up it put in a fairly good flight.

## AERONAUTICAL SOCIETY OF GREAT BRITAIN.

### OFFICIAL NOTICES AS SUPPLIED BY THE SECRETARY.

**Election of Associate Fellows.**—The next election of Associate Fellows will be held in June next. The last day for the receipt of applications will be Tuesday, May 28th, and the result of the election will be declared on Wednesday, June 12th. Application forms may now be obtained from the secretary, and it should be noted that it is not necessary that the applicants should be members of the Society.

**Programme of Meetings.**—To be held at the Royal United Service Institution.

April 29th, Monday, 8.30 p.m. Chairman, Dr. W. N. Shaw, F.R.S. Capt. C. H. Ley, F.R.Met.Soc., on "Aerial Topography."

May 8th, Wednesday, 8.30 p.m. Chairman, Gen. Sir John French, G.C.B. Brig.-Gen. D. Henderson, D.S.O., C.B., on the "Design of a Military Scouting Aeroplane."

May 16th, Thursday, 8.30 p.m. F. H. Bramwell on "National Physical Laboratory Research."

June 12th, Wednesday, 8.30 p.m. G. Holt Thomas on "Hydro-Aeroplanes."

**Programme for Session 1912-13.**—The meetings of 1912-13 Session will be held on 2nd and 4th Wednesdays at the Royal United Service Institution, at 8.30 p.m., beginning October 9th. The programme at present arranged is as follows:—

W. O. Manning on "Propellers"; R. L. Howard Flanders on "Stress Diagrams"; Col. F. G. Stone on "Aircraft as Targets for Artillery"; M. O'Gorman on "Some Stability Devices"; Arch.

R. Low on "Aeroplane Construction"; B. G. Cooper on "Peculiarities of Insect Flight"; L. Bairstow on "The Law of Similitude"; Horace L. Short on "Multiple Power Plants and Disposition of Screws in Aeroplanes"; A. Arkell-Hardwick on "Breaking Stresses"; Col. H. E. Rawson on "Meteorology."

**Informal Meetings.**—Informal meetings for the discussion of set subjects are held at the Society's Offices, 11, Adam Street, Adelphi, on Mondays from 5 p.m.

May 6th, "Atmospherical Conditions at Hendon Aerodrome."

May 13th, "Double Engined Aeroplanes."

**Students.**—Students attending regular science, engineering, or aeronautical courses at recognised technical colleges, as well as those pursuing the scientific side of aeronautics professionally, are eligible for the Students' section, and should apply immediately if desirous of being admitted without entrance fee. The studentship is a branch of the technical side of the Society, which affords a technical status to those admitted thereto. Students may attend all meetings, receive the Society's publications, are admitted at half the usual membership fee and are exempt from payment of entrance fee on transferring to Associate Fellowship.

**Foreign Members.**—Residents abroad are advised of a new rule by which they can be admitted to membership at half the usual subscription and without entrance fee, i.e., at £1 1s. per annum.

T. O'B. HUBBARD, Secretary.

### £400 for Flying Round Paris.

THE Seine General Council has placed at the disposal of the Ligue Nationale Aérienne a sum of £400, which will be awarded to the aviator who, piloting a French-built machine, makes the greatest number of circuits of Paris before December 1st, 1912. The start

and finish of each circuit must be at Juvisy, and competitors must land at Vincennes and Buc, and turn above marks at Le Bourget and Sartrouville. Should any competitor make the same number of landings, a prize will be awarded to the machine which stops the quickest after landing, a point which will be noted by the official observers at the finish of each circuit.



## AIR EDDIES.

I HEAR that the Naval authorities propose to erect at Eastchurch a structure resembling the deck of a battleship on which tests of alighting and starting by aeroplane may be practised.

Things are going on apace at Hendon, and before the end of next month the new club house which the Grahame-White Aviation Co. are erecting on the aerodrome, for the accommodation of hangar tenants, members and season ticket holders, should be completed, and ready for occupation. Those keen on flying, and there must be thousands in and around London who are, should certainly avail themselves of the really excellent facilities that Grahame-White's organisation is affording, for, for quite a reasonable subscription one will shortly be able to obtain full use of all the dining, lounge and recreation rooms at the club house, together with the use of the adjacent tennis courts, and admission to the aerodrome enclosures.

I hear that Messrs. Hewlett and Blondeau are going in for aeroplane construction on a pretty large scale, and they have already secured an order for constructing a Hanriot monoplane from Hanriot (England), Ltd. With such an excellent reputation behind them, they should not be long in attaining an even greater success than has already been theirs.

It is now the fashion to speak of shares as "aviating" instead of "rising."—*Financial News*.

Hucks is what we may call *some* pilot. Not content with jumping from a Blackburn on to a Blériot, and flying that with great success at the Hendon Easter meeting, he has during the past week been flying Farman and Sommer biplanes at the Grahame-White establishment.

It has occurred to me that a competition for man-propelled aeroplanes, instituted on the lines of the Peugeot prize in France, would form a most interesting event at aviation meetings. Not only would it serve to encourage that section of the study of aeronautics, but it could be relied on to provide a variation, probably a humorous one at times, from the more serious events of the day.

The Grahame-White works at Hendon have now under construction a miniature racing monoplane to be equipped with one of the new 35-h.p. Y-type Anzani motors. Its fuselage is to be of torpedo form, and a combination wheel and skid chassis of quite a new type is to be fitted.

M. René Caudron, who came over to England the latter part of last week to carry out the initial flights on his biplane, the rights of which have been secured by W. H. Ewen, carried out a very interesting test at the Hendon aerodrome on Friday of last week. To test its weight-carrying abilities, there being no room in the *nacelle*, he seated a passenger inside the *cellule* on the right-hand side of the body, attaching a bag containing a few tools to the left wing tip to equalise the weight. That such a low-powered biplane could lift this extra weight, in spite of the extra head resistance that the presence of the passenger in that unconventional position would set up, speaks volumes for the efficiency of the machine and the engine with which it is fitted, a 35-h.p. Anzani.

I hear that the hydro-aeroplane experiments at Barrow are going to be abandoned—for the time being at any rate.

Before very long we may hear of one of our best-known English pilots making a long cross-country trip on the Continent, accompanied by a passenger.

Mr. G. M. Dyott, who, as recorded in these columns from time to time, has been doing a lot of excellent exhibition work out in America, returned to England on Sunday last on the "Oceanic." He did not, however, remain in England long, for on the following evening he set off for Paris, where he intends to spend the week in selecting and obtaining

delivery of a couple of machines to take back with him to America for his second season's work. This he figures on getting done in time to sail for America to-day.

Dyott reminded me that after all he did fly at Yucatan, although the conditions were such that he had little desire to repeat the performance. The ground was so badly situated that had there not been a forty-mile-an-hour wind blowing at the time it would have been impossible to get away from it. Even at that, flying head to wind, it was an extremely risky undertaking. Landing there, too, was little better, and Dyott had to arrange for sand to be put down on the ground in order to bring the machine quickly to a standstill.

The new Blackburn all-steel monoplane has arrived at Filey, where it is to be put through its tests.

With wise foresight and with implicit faith that in Britain will, eventually, the most business be done, the French Hanriot firm are forming a subsidiary company to exploit their interests on this side of the Channel. M. Maurice Ducrocq, who has up to the present controlled the interests of the Nieuport firm in this country, will direct operations, with headquarters at Brooklands. Already one of their new machines is being constructed in England, and we shall probably soon have the opportunity of judging for ourselves its capabilities, for it will very likely figure in the racing at Brooklands and Hendon early next month. I can seem to see it carrying off some of the speed events, at any rate, for it was on a machine of exactly the same type as that which is being built here in England now that Frey, if I remember rightly, covered the kilometre at the rate of 85 miles an hour at Rheims just recently.

Despite its high speed it is none the less useful for cross-country work, where landings have to be made on limited areas, for its chassis has been designed to pull up very quickly on landing. Three machines will represent the Hanriot firm in the French Grand Prix competition in June, and one has already been entered for the Paris-Pekin race.

Young Marcel Hanriot recently went to Italy to demonstrate the machine before the Government officials, and returned home with an order for four two-seater monoplanes in his pocket. Apparently a very smart youngster is Marcel, not only as a pilot, but from a business point of view. Last week he completed his *brevet supérieure* on the new monoplane.

I see that between January 10th and March 20th a score of pupils qualified for their *brevets* at the two Curtiss schools in California.



G. M. Dyott, who has been exhibition flying in America, and whose "adventures" were referred to in Eddies recently. Mr. Dyott has returned to England on a flying visit.



The Gnosspelius hydro-monoplane on Lake Windermere during a 12-mile flight under the pilotage of Mr. Kemp last week.

Having business to transact at Farnborough on Friday of last week, M. Maurice Ducrocq set out from Brooklands about half past seven in the morning, and flew back again in the evening about seven o'clock, after attending to his work and spending the afternoon watching the army manoeuvres. On the way over he passed, at the regulation distance be it said, the "Gamma," which, by the way, had Captains Maitland, Loraine and Raleigh on board. He reached his destination just as the "Beta" was alighting. It is getting quite a common occurrence nowadays for pilots to use their aeroplanes to enable them to get about on business.

At the present time the Aeronautical Society can ill afford to lose the services of their enthusiastic secretary, Mr. T. O'Brien Hubbard, but he has decided to take up practical flying and so needs must resign his position. Although the members will regret his going they will wish him all success in his future work. I hear he is almost ready to qualify for his certificate.

Lieut. Spencer Grey, R.N., has shown himself just as much at home on the Short biplane as on his Blackburn monoplane. On Saturday morning, with Mr. F. L. Brown, he flew over from Eastchurch to Ramsgate, and having covered the 50 miles in 1 hr. 10 mins. had to come down at the back of St. Lawrence College for petrol. This was obtained after about twenty minutes' delay and then the pair returned to Eastchurch. Early on Monday the flight was duplicated but this time without a stop.

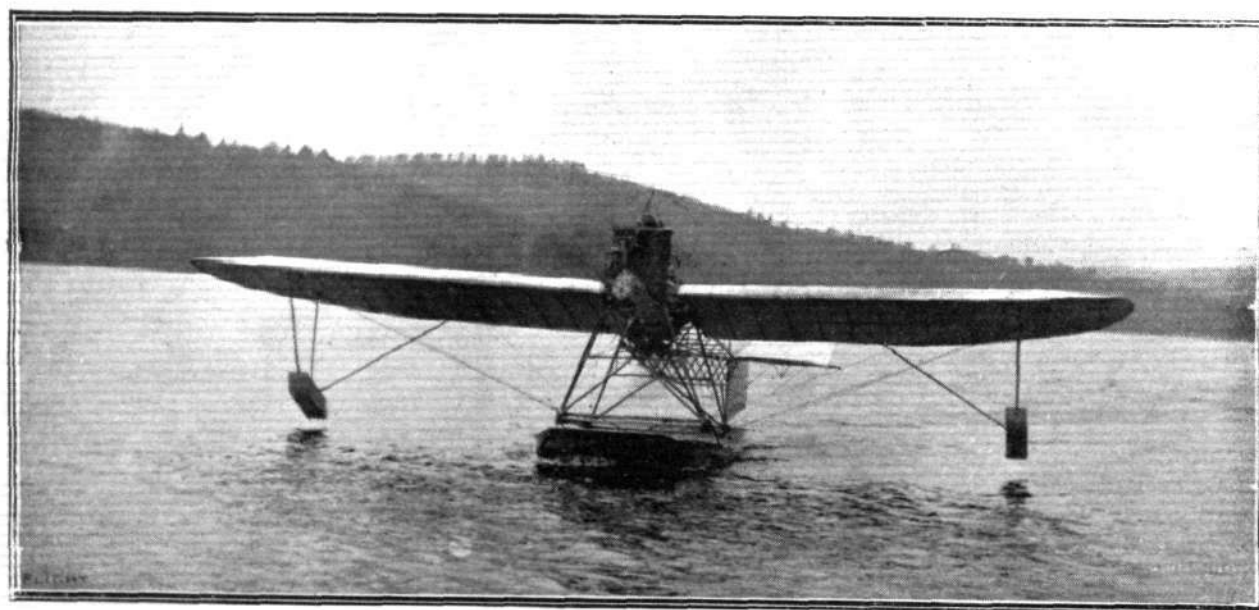
It is some time since any further projects for crossing the Atlantic by aeroplane have been published. However, another one has now come along. It is that of a German inventor, Beckmann, who intends to use a hydro-aeroplane equipped with a pair of engines of his own design. Starting from the west coast of Spain, so the story goes, he reckons to cross to America in 37 hours, stopping on the way at one of the islands in the Azores group to replenish his fuel tanks. He counts on making the trip during the coming summer.

I should not be at all surprised to see hydro-aeroplanes originating from some of the establishments at the Hendon aerodrome, and, what is more natural, carrying out experiments on the Welsh Harp waters very soon. Hydro-aeroplaning is in for a boom this year—watch it.

Mr. George S. Wilson, editor of the *Edinburgh Evening News*, has purchased from Ewen one of the three Caudron machines that he has offered at a specially low figure. The machine, I believe, he intends to put at the disposal of the members of the Edinburgh Aero Club, a body that he played a large part in instituting.

The King's annual visit to Aldershot, which will probably take place this year some time around Whitsun week, will undoubtedly afford him an excellent opportunity of inspecting the Royal Aircraft Factory, and of seeing his military aviators at work.

"OISEAU BLEU."



THE GNOSPELIUS HYDRO-MONOPLANE ON LAKE WINDERMERE.—View from the front after alighting on the water.

## FLYING THE IRISH CHANNEL.

Now that well over a week has passed since Mr. D. Leslie Allen set out from Holyhead at about seven o'clock in the morning of Thursday of last week, to cross the Irish Channel, and no news of his whereabouts have come to hand, it certainly seems that it is our sad lot to mourn another British life, sacrificed—we think again quite unnecessarily—in the practising of the sport. It was on the previous day, the Wednesday, that he with Mr. Corbett Wilson, set out from Hendon to fly in company to Dublin. There was no wager between them as to who should get there first, as has been generally stated. They simply had a feeling that they would like to visit their native island by the new method of locomotion, and they both started off in friendly rivalry to fly there together. At that time it was thought by those at the aerodrome that the flight was an unusually risky one for such comparatively inexperienced pilots to attempt. Further, so hastily had the trip been arranged that no precautions were made against the possibility of having to descend in the sea. They both left Hendon soon after half-past three p.m. on Wednesday, and Allen, following the London and North-Western Railway line, arrived at Chester about half-past six in the evening, after landing some ten miles the other side of Crewe to ascertain his whereabouts, Corbett Wilson landed the same evening at Almeley, about fifteen miles northwards of Hereford.

Just after six on the following morning Allen started from Chester and passing over Holyhead an hour afterwards, flew out to sea. He has not been seen or heard of since. His friend, Corbett Wilson, left Almeley at half-past four that afternoon and was forced to land some few miles further on at Colva in Radnorshire. On Sunday morning early he set off again and this time reached Fishguard, leaving again at six o'clock on the following morning, Monday, and flying across St. George's Channel in the direction of Wexford.

One hour and forty minutes was occupied in crossing the Channel and a landing was made at Crane, two miles from Enniscorthy, the trip being the first occasion that the strip of water separating Ireland from the main land has been entirely crossed by aeroplane. It will be remembered that Mr. Loraine's attempt in 1910 failed by some 300 yards.

Mr. Vivian Hewitt also has the intention of attempting the crossing to Ireland, but his route is to be from Holyhead to Dublin across the Irish Sea. At the time of writing he is waiting at Holyhead for favourable weather. He left Rhyl at 5 a.m. on Sunday morning and after remaining up for an hour and twenty minutes was forced to land at Plas in Anglesey. His flight was made at an average of quite 5,000 ft., for he says he could distinctly see over Snowdon. The wind was boisterous in the extreme and he testifies to the fact that had he remained up much longer he would undoubtedly have been ill, so much was he tossed about. The



Mr. D. L. Allen, the aviator who has been missing since last week, when he started upon his attempt to fly the Irish Channel.

section from Plas to Holyhead was flown on Monday morning, starting from the former place at about 9.30. Mr. Vivian Hewitt has his machine in Lord Sheffield's grounds and will continue his flight as soon as conditions prove favourable.



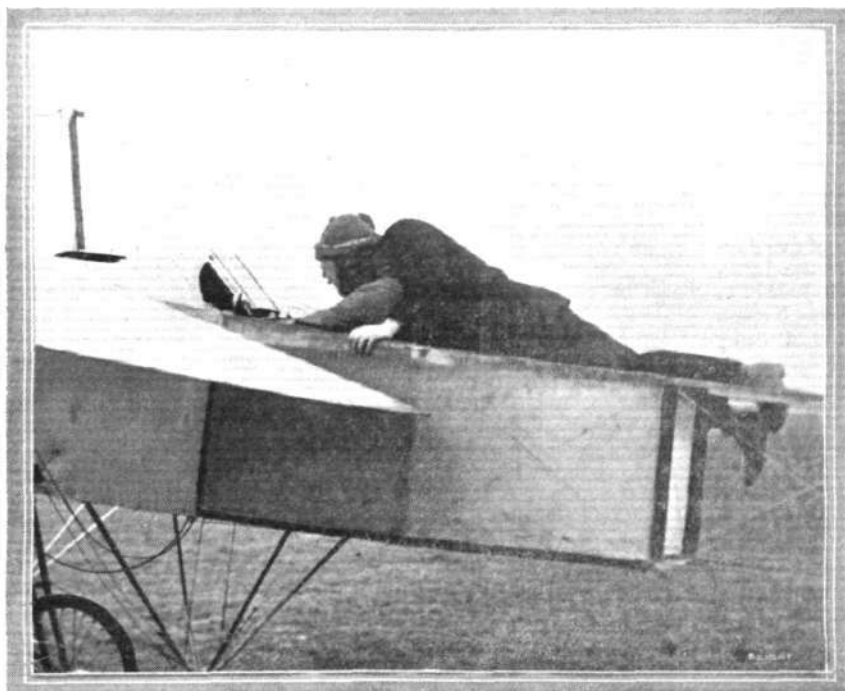
### Aquaplanes on Lake Windermere.

IN reply to questions in the House of Commons the other day, Mr. McKenna said he was not prepared to make an order under the Aerial Navigation Acts prohibiting the use of hydroplanes over Lake Windermere, but the question of making certain restrictions were being considered. In reply to other questions, Mr. Churchill said no contract had yet been made by the Admiralty for the construction of hydroplanes on the shores of Lake Windermere, but arrangements were being entered into for the conversion of aeroplanes into hydroplanes by a private contractor at Windermere. The present intention was to carry out preliminary tests on the lake.

### Royal Flying Corps (Naval Wing).

FOR the accommodation of the Naval Flying School, the Admiralty have purchased a piece of ground, about 10 acres in extent, adjoining the aerodrome of the Royal Aero Club at Eastchurch. Very shortly work will be commenced on an extensive series of temporary buildings, providing quarters for officers and men, workshops, and hangars for the machines.

As pointed out in the Government memorandum, it is impossible to forecast what the ultimate development of this school will be, as it greatly depends upon the result of the aquaplane experiments which are about to be made.



Mr. Allen, on his Blériot, tuning up at Hendon last week before his start for the Irish Channel flight, which has ended so mysteriously.



# FOREIGN AVIATION NEWS.

## The National Fund in France.

At the end of last week the total amount received in connection with the National Fund for the purchase of aeroplanes for France was 1,600,779 francs, of which 500,000 has already been placed at the disposal of the Minister of War for the purchase of 33 machines. One of the latest contributors is Mme. Sarah Bernhardt, who dressed in the costume of l'Aiglon, has consistently visited among the audience at her theatre and collected the sum of £800. The aeroplane to be purchased with this money will be appropriately named "l'Aiglon."

## The Mystery of Verrept's Death.

A LOVE affair was apparently at the back of the mysterious fatality at Chateaufort, on Wednesday of last week, when John Verrept, the well-known Belgian aviator and chief pilot at the Borel School, dived down from a height of between 200 and 300 metres to his death. On the morning in question he went up on the machine, and after he had flown round and round for three quarters of an hour, the spectators were horrified to see the machine suddenly dip and rush to earth, with the machine almost in a vertical position and with the engine still running. When about 80 metres above the ground, one of the wings broke, and the machine and pilot fell in a heap, a mass of wreckage. The aviator was still breathing, and was taken at once to the Versailles hospital, but expired a few minutes after his admission. This incident has been widely referred to as the "First suicide by aeroplane."

## French Military Flyers and Physical Fitness.

THE number of accidents which have recently occurred to French military flyers, has lead the Minister of War to issue a special Army order, pointing out that officers and men selected for aviation work must be physically fit, and in particular, must have excellent eyesight. Attention is also drawn to the necessity of special examination of the various parts of the machines to see that everything is in order, while, should the state of the weather entail any risk, no flying is to be attempted.

## Henry Farman takes his Monoplane Across Country.

HAVING found complete satisfaction in the results of his tests with his monoplane at Chalons, Mr. Henry Farman on the 20th inst., decided to further try its capabilities by taking a trip to his brother's works at Buc. Accompanied by his foreman, de Ram—a featherweight of 14 stone—and with enough oil and petrol for three hours, making a total load of 220 kilogs, he left Chalons at half-past four in the afternoon. The two hundred kiloms. were accomplished in an hour and a-half, and considering the motor was only a 50-h.p. Gnome, the speed of a little under 140 kiloms. an hour gives promise to the new type not being much of a laggard. Probably the main reason for the steady advance of the Farman machines is the fact that the Farman brothers are among the few constructors in France who consistently themselves test and fly the machines they build, incidentally, also, emphasising their faith in their own products.

## Pekin to Paris Race.

It has been decided now that the Pekin to Paris race shall be held next September, instead of August, and that the route shall be across the Gobi Desert and along Lake Baikal. Tetard has entered for the race.

## The International Michelin Cup.

THE Aero Club of France has fixed the six periods of five days each during which attempts may be made in France for the International Michelin Cup. The dates are May 28th to June 1st, July 1st to 5th, July 22nd to 26th, August 5th to 9th, September 2nd to 6th and September 16th to 20th, all dates mentioned being inclusive.

## At the Deperdussin School.

LEAVING the Deperdussin school at Courcy Betheny at a quarter past four on the afternoon of Saturday last, Lieut. Brucher made a fast trip to Epinal, covering the 290 kiloms. in 2 hrs. 45 mins., and flying most of the way at a height of 1,000 metres. On Monday a flight was made by Lieut. Benoist, who was up for an hour-and-a-half, and rose to a height of 1,800 metres.

## English Flyer at Nieuport School.

ON Sunday last, at Pau, Capt. Gerrard, R.N., one of the naval aviators from Eastchurch, made a splendid cross-country flight on a Nieuport monoplane with a two-cylinder Nieuport engine. Sergeant Canal, on a similar machine, finished the three tests for a superior *brevet* and Sergeant Beauwens made a duration flight of two hours. Lieut. de Villepin also indulged in some scouting practice from Pau to Orthez and back.

## More Farman Superior Pilots.

AT Buc on the 19th inst., on an M. Farman biplane, Lieut. Beausure de Seyssel passed his second test for a superior *brevet*, and on the next day he made the third flight. Also on the 19th, but at Rheims, Lieuts. Prat and Frugier, each on an H. Farman biplane, made the third tests for a superior certificate. The latter officer made his second test on the previous evening. Cavalry-Sergeant Hurard, Lieut. Bordage, and the Marquis de Larenty-Tholozan each made their third tests at Etampes on the 17th inst.

## More Tests with the Tubavion.

SOME further tests were carried out by Marcel Goffin with the Tubavion machine on Monday. Several flights were made at a height of 150 metres. In some the pilot was alone, and in others he took a passenger, his mother being one to be so favoured.

## A Good Voyage on a Morane.

SPLendid as was Tabuteau's 175 kilom. trip on his Morane monoplane from Mailly to Juvisy, it was bettered, on Saturday last, by Liger, who went from Villacoublay to Avranches without a stop, taking 2 hrs. 25 mins. to traverse the distance of 285 kiloms.

## A Silent Breguet Biplane.

A FINE trip was made by Bregi on the 18th inst. on his Breguet biplane, the Salmson engine of which had been fitted with a special silencer. For the first test for a special certificate Bregi took the machine from Mailly Camp to Rheims and back, covering the 125 kiloms. in 1 hour 15 mins.

## A New Fast Hanriot Monoplane.

ANDRE FREY has been carrying out, at the Hanriot School at Rheims, some tests with a new Hanriot monoplane built for speed. After a cross-country trip on the 13th inst., the machine was timed to cover a kilometre in 25 seconds, giving a speed of 138 k.p.h.

## Juvisy to Luneville in an Aeroplane.

A MAURICE FARMAN biplane, piloted by Verrier and carrying Capt. Bertrand, flew from Juvisy to Luneville on Sunday last, stops being made at Chalons and Bar le Duc.

## The Cosmopolitan Nieuport School at Pau.

SEVERAL of the French flying schools have officers of different nationalities training side by side, and a typical instance is at the Nieuport School at Pau, where on Sunday, Capt. Gerrard of the English, Capt. Herrera of the Spanish, Lieut. Vanpoiat of the Swedish, and Lieuts. Cassabella, Puseaux, Resio, and Count Brunetta of the Italian Armies, were all being initiated into the art of manipulating the Nieuport monoplane. This, of course, in addition to the large number of French officers who are undergoing training.

## Marcel Hanriot a Superior Pilot.

ON the 18th inst. Marcel Hanriot completed his qualifying flights in order to obtain a French superior *brevet*. Leaving the Betheny ground at Rheims at 6.7 p.m. he turned at Vitry-le-Francois at 6.44 and was back at Rheims at 7.23 p.m. During the outward journey he was at a height of 1,500 metres and coming back his speed was well over 120 k.p.h. He had made a similar flight on the previous day.

## The Michelin Target Prizes.

AT last, the first of the competitions for the Michelin Aero-Cible prizes have been held, but the results are not very satisfactory. There were four entrants—Lieuts. Mailfert and Bosquet on Farman machines, Lafon on a Sommer biplane, and Gaubert on an Astra-Wright biplane. The latter two did not compete, as their machines were not ready. The trials took place at Chalons Camp on Sunday, and Lieut. Bosquet, who started first, found the fifteen dummy shells (each weighing 15 lbs.) too much for his little machine. He, therefore, left six of them behind, and although he did not succeed in placing any of the remaining nine on the target they were not a great way off. Lieut. Mailfert, who was accompanied by Capt. Couade, the inventor of the sighting apparatus used, then went up with fourteen bombs, but only two of them found their way on to the target. Lieut. Bosquet was up for 47 minutes, and Lieut. Mailfert for 38 minutes. In the afternoon Lieut. Mailfert made another 39 minutes' trial, but did not succeed in getting any bombs on to the target.

## Buc to Etampes and Back.

MAURICE FARMAN's little trips from Buc to Etampes and back are getting quite commonplace now. On the 19th inst. he made the trip with Tancrede on a biplane fitted with a *bonnet*.

### Bielovucic's Cross Country Trips.

LEAVING Rheims on his Deperdussin monoplane on the 19th inst., Bielovucic went to Nogent-le-Rotrou, covering the 320 kiloms. without a stop, in 2 hrs. 58 mins.

### Long Flights at Blériot School at Pau.

LIEUT. SERANT, on the 19th, in his first superior certificate test, flew from Pau to Magescq and back. Lieut. Garnier was up for a couple of hours and Sergeant Feisterstein went to Tarbes and Vic-de-Bigorre and back to Pau. The next day, which was practically the day on which the school closed for the summer, Lieut. Kreyder and Sergeant Marty were flying for an hour, and Leblanc carried several lady passengers. Sergeant Laurent flew to Dax and Soussons and back, a distance of 200 kiloms. Lieut. Vergnette went to Amon and back, 80 kiloms. Sergeant Didier paid a visit to Tarbes, 75 kiloms., and Sergeant Perretti went to Orthez and back, 75 kiloms.

### Flying to Juvisy Meeting.

QUITE a large number of those taking part in the Juvisy meeting arrived by way of the air, several of them so journeying from long distances. Tabuteau, on his Morane, flew from Mailly Camp, covering the 155 kiloms. in 53 minutes. Charles Nieuport flew over on his monoplane from Villacoublay.

### Gordon Bell Pleases Hospital Patients.

WITH the object of giving the patients in the hospital at Rennes a chance of seeing an aeroplane in flight, Gordon Bell, on his R.E.P. monoplane, on the occasion of the recent meeting, flew round and over the institution. The governor of the hospital has now written a letter thanking the aviator and those who arranged the flight for their thoughtfulness, which brought a good deal of joy and satisfaction to many lying on their beds who have had no opportunity of seeing an aeroplane.

### Cross-country Flying on a Caudron.

ON the 16th inst., Allard on his Caudron biplane flew from Rennes to Vezin and back, *via* Gayeulles. On the 20th inst., he made a flight of half an hour's duration at a height of 500 metres over the outskirts of Rennes.

### Some Caudron Superior Pilots.

SEVERAL of the Caudron pupils at Le Crotoy are qualifying for the French superior certificate. On the 17th, Obre made his first test over a course to Cape Grisnez and back to Le Crotoy, the trip taking 1 hr. 12 mins. The same day Jacquemart was flying for a couple of hours. On the 19th, Obre made his second test, and Lieuts. Bon and Duval their first, while Jacquemart paid a visit to Berck.

### Greek Officers at Chartres and Orleans.

ON the 16th inst., Lieut. Kamberos flew his Henry Farman biplane to Orleans, and returned two days later. Accompanied by Lieut. Adamidis, a fellow officer in the Greek Army, who has also learnt to fly at Etampes, he made a trip to Chartres on the 22nd inst.

### A R.E.P. Superior Pilot.

AT Buc on the 17th inst. Lieut. Maurice made his first test for a special military certificate on a R.E.P. monoplane.

### Progress at Voisin Military School.

THE Voisin military school at Mourmelon was busy on the 17th inst., when Boiteau and Decarriere flew for a couple of hours for a superior *brevet*. Grasset was also up for a couple of hours with de Ridder the instructor.

### A Day's Meeting at Juvisy.

WITH the object of initiating a fund for the benefit of the dependents of those who have lost their lives in connection with aviation, the Syndicat des Aviateurs organised a meeting to be held at Juvisy on Sunday last. The programme consisted of five events, the Championship of the Seine, a ten mile race through Montlhéry

and back, starting and landing, *vol plané* speed, and bomb dropping competitions. A crowd, estimated at 20,000 persons, attended and saw plenty to keep them occupied. The morning was taken up with the arrival of several of the competitors in their aeroplanes, Andre Frey arriving from Rheims on a Hanriot, Verrier from Luneville on a Farman biplane, Mahieu on a Voisin from Issy, Legagneux on a Blériot from Corbeaulieu, Brindejone des Moulinais on a Morane from Villacoublay, and Busson on a Deperdussin from Issy. A tricky wind somewhat delayed the start of the competitions in the afternoon, but at three o'clock Legagneux gave a fine exhibition, while between four and six o'clock there was practically continuous flying, those being seen including Legagneux (Blériot), Busson (Deperdussin), Lieut. Faucompe (M. Farman), Frey (Hanriot), Tabuteau, and Brindejone des Moulinais (Morane), Verrier (M. Farman), Mahieu (Voisin), Chas. Nieuport (Nieuport), Pischoff (Pischoff), Demazel (Caudron), Ladougue (Ladougue) and Koenig and Divetain (Goupy). The result of the cross-country race was a win for Tabuteau in 9 mins. 1 sec., with Frey second in 9 mins. 2½ secs., and Brindejone third in 10 mins. 37 secs. Passenger flights were in great demand, the most popular bus being the Voisin on which Mahieu made seven trips, each time taking one or two passengers. In the evening a number of the competitors flew back to their headquarters.

### Another French Officer Killed.

WHILE preparing to fly on his monoplane from Verdun to St. Mihiel, on the 19th inst., Lieut. Thierry de Ville d'Avray met with a fatal accident. The aeroplane had risen to a height of 50 metres but it had only progressed a few yards when, according to the official account, the right wing collapsed. The pilot was taken from the wreckage as quickly as possible, but he passed away within an hour of his admission to the hospital.

### Flying to the Funeral.

AFTER having flown over to Bar le Duc for the funeral of Lieut. Boncour, Lieuts. Cheutin, Menard and Nicaud on their Farman machines and Bielovucic on the Deperdussin went over to Toul and made some flights above the town on the 16th inst. Later Lieut. Menard and Bielovucic returned by way of the air to Rheims while Lieut. Cheutin went back to Bar le Duc and then on to the Mailly Camp.

### Long Trips on Italian Monoplane.

ON the Caproni monoplane fitted with a 50-h.p. Anzani engine Cobioni on the 19th inst. flew from Somma Lombardo to Adria, a distance of 340 kiloms., without a stop. He started off again the same evening for Ariano, where he was to give exhibitions in connection with the opening of the new Campanile at Venice.

### German Naval Work.

A GOOD deal of work has been put in by the German officers at the naval aviation centre of Dantzig. On the 15th inst. one officer made five ascents, each time with a passenger.

### Another Collision at Johannisthal.

A MONOPLANE and a biplane collided a few feet off the ground at Johannisthal on the 17th inst. The single-decker was being piloted by Stiplocek, while the biplane had Lieut. Zwickau at the tiller, he being accompanied by his sister. The machines were smashed. Stiplocek escaped unhurt, the Lieutenant had his upper lip split, while the lady had several ribs broken.

### The German Aeroplane Industry.

ACCORDING to advices from Berlin extensions are being made at the Albatross works at Johannisthal, so that a dozen aeroplanes can be turned out each month. At the recent German show this firm had two posters, one announcing that 30 Albatross machines could be purchased for the price of one Zeppelin, and the other that 2,500 of them could be obtained for the cost of one Dreadnought.

## IS THE WRIGHT PATENT ANTEDATED?

FROM Washington, D.C., comes news of a most important judicial decision which may have a far-reaching effect upon the legislation now raging round the patents governing the control of aeroplanes in the U.S. On April 1st, Chief Justice Shepard, in the District Court of Appeals at Washington, sanctioned the application of Mrs. Mattulath for the revival of the patent application on January 8th, 1900, of her late husband. The patent referred to flexing wing tips, identical, it is understood, with the present Curtiss design.

In March, 1900, the Patent Office Examiner decided that however plausible the applicant's theory might be, actual demonstration of operativeness must be required before the grant of a patent. He pointed out that "no successful attempt has yet been made to rise from the earth's surface by means of an aerial vessel unprovided with a balloon," and that "the results of previous experimentation indicate that even if the rising could be successfully

accomplished, the vessel would be uncontrollable through inability to maintain its normal position or balance."

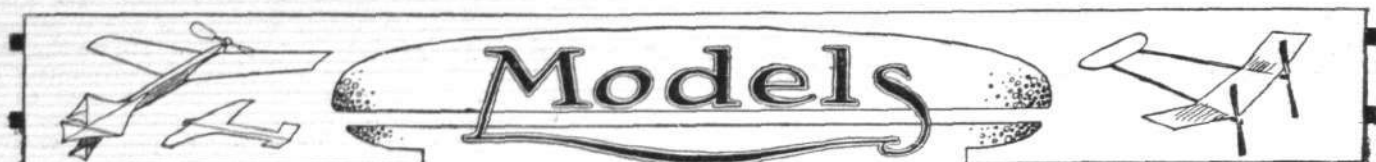
The patent will now have to undergo examination, a process which may take a year or two, and it may be several years before the Mattulath application becomes a patent.

A well-known American patent lawyer—C. C. Hines—well versed in aeronautical matters has stated that:—

"The Mattulath application antedates the Wright brothers' first application more than three years and the application of Curtiss and the other members of the defunct 'Aerial Experiment Association' a still greater period, and, while I am not entirely familiar with what the application shows, I believe that it discloses sufficient to render it impossible for the courts to hold the Wright patent valid for anything except the particular structure shown therein."

In Washington the name of Mr. Curtiss has been associated with this revival application.





Conducted by V. E. JOHNSON, M.A.

### An American Book on Model Aeroplanes.

"THE Second Boys' Book of Model Aeroplanes" is the title of a book of some 260 pages, published by the Century Co., New York, and kindly lent us by Mr. Robert P. Grimmer. The author of the same is Mr. F. A. Collins. It is always a matter of considerable importance in any subject to know what other nations may be doing in any matter in which we may be interested, and as the book deals solely with the subject from the American standpoint, a few remarks relative to the same may not be without interest. In the first place, the book cannot be styled in any way a scientific treatise on the subject—nevertheless, it contains a very large proportion of matter which any aeromodelist would read with pleasure, and not a few with profit. The general conclusion at which one arrives after a careful perusal of the contents is that model aeroplaning in the United States has not reached such an advanced state as in Great Britain; making due allowance for date of publication, 1911.

There are certain remarks of the author in the first chapter (Model Aeroplanes of 1911) *re* English and American models which must not be permitted to pass without comment.

The author admits that the length of flight of the American model is inferior to the English, but states that the American modelist is solving many practical problems of aviation which the English have not attempted. In the American stick frames the tendency is toward more stable construction than abroad. The best English models would not qualify for an American model tournament, since they could not rise from the ground. . . . The American model would be outdistanced, but their [*i.e.*, the American] model would show them to have far greater automatic stability than their English rivals. This, of course, we deny *in toto*, and can only regret our inability to take a small parcel of selected English models over to New York and show the members of the New York Aero Model Club what the English model is capable of in the way of automatic stability.

Personally we agree with the American model tournament rules, viz., the setting of the model upon the ground and the releasing without even the slightest push. As already stated in these columns, such is the rule in France. In many of the American tournaments the model must clear the ground within 20 ft. or the flight is disqualified.

A little further on—page 11—the author adds: "The average English models, even with American skids, would not leave the ground at all." Possibly not with some of the clumsy and heavy skids shown in some of the illustrations. But an English model built to rise from the ground can do so, without any difficulty, *in its own length*, and make a good flight of from 40 to 50 secs. afterwards, and, so far as we know, no American model has done this. English "flying-sticks," built to be hand-launched and for distance, will not (*as they stand*) carry the extra weight of the landing chassis, &c., and make a good flight. No more would any similar American model. The author appears to consider—page 11—10 to 20 ft. a good altitude for a self-rising model to attain, and states: "To secure a good rise requires a much more scientific adjustment of the planes and weighting than is the case of the English models"—a remark which merely serves to show that in this respect, at any rate, the writer is most certainly not *au fait* with his subject. A little later we read: "Our American model builders believe that their flights are far more scientific than in the case of the hand-launched model, and that they are doing more for the actual development of the art of aviation than their English cousins." The writer has forgotten the fact that there is in Great Britain an ever-increasing body of aeromodelists who would build (save for some special experimental tests) nothing but self-launching models, and who would if they were permitted to have their own way, allow no contest (save for juveniles) in which the model did not arise from the ground (or water) under its own power without push. Such contests will be far more common this season than last, but even then there were quite a number of them. Chapter XIII—Selected Questions for Beginners—is both novel and interesting. A few selected at random are: "How can I find the centre of pressure of a model? What is the best position for the propeller? What is the lightest metal I can use? I am troubled with my machine trembling a good deal during flight. What can I do to make it steady? What is the best place to put the keel, &c."

To each question is appended an answer; generally speaking the answers given are correct—exception might be taken to two or three. One question is: "How long has a model aeroplane remained in the air?" The answer to which is: "The American record for time aloft is held, we believe, by Cedl Peoli, of New York, whose model has remained in the air 65 secs." The longest distance [English record] is given in the same paragraph as 26,000 ft. [obviously 2,600 ft. is meant].

Carelessness is shown by the author in dealing with English names, we read for instance of Burgess Webb [an extraordinary combination—it ought to refer to an aquaplane surely—but it doesn't] and of Ding. Sayles and Co.

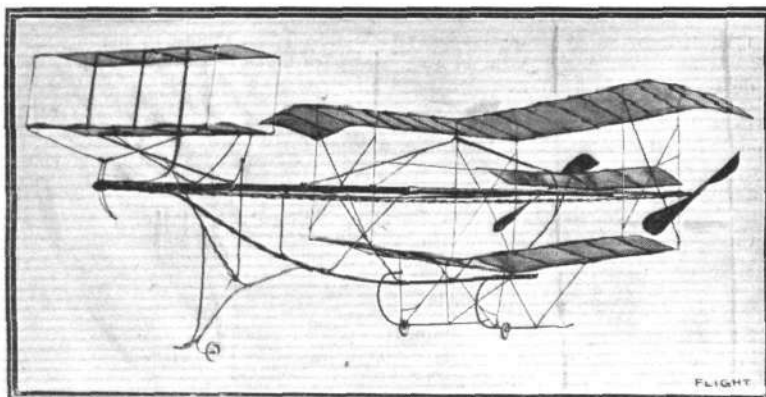
The only English models illustrated or referred to in the book are the Fleming-Williams (tail type), the Burgess (Burge) Webb and the T. W. K. Clarke one-ouner (the latter not by name). Practically speaking the book contains no information with respect to power-driven models or hydro-aeroplanes (or aquaplanes). Amongst the various competitions held in America is the "Spectacular Flight Contest"—in which the prize is awarded to the contestant making the most spectacular flight. A jury of five persons, selected from the spectators, to decide upon the most spectacular flight. Each contestant, before launching his model (which must possess landing chassis and be capable of self-launching) to announce the object of his flight. The announcement to be made to the public. Contestants are at liberty to fly their models from the ground or from the hand, and start wherever they wish. The price of the book is \$1.20.

### Model Flying on Wimbledon Common.

We congratulate the Conservators of the above common on the decision they have arrived at [in answer to a deputation from the Kite and Model Aeroplane Association], viz., to allow the flying of model aeroplanes on the common; and we are quite sure so long as they permit only the flying of properly protected models that they will never have any reason to repent of their decision.

### An Original Type Biplane.

Mr. L. H. Harris sends us the following particulars of a biplane (*see* illustration) of a decidedly novel type: "The model is mounted on three rubber-tyred wheels (all same size), the planes being rendered waterproof by coating with a special liquid which I invented some time ago, the effect of the liquid being to give the substance a beautiful transparent appearance not easily distinguish-



Mr. L. H. Harris's novel biplane.

able from the best silk. Although light, the framework is specially designed so as to give the requisite strength. An original idea which I have embodied in the model is the sleigh-runners behind the fore wheel, designed to protect the chassis should the wheel break on landing from coming in contact with the ground. The propellers are 8 ins. diameter, rubber driven. The model has made many good flights at the Erith Recreation Ground. On attaining the requisite velocity the model rises off the ground after a brief run and soars into the air, the length of flight not being materially affected by the power spent in this evolution."



### Replies in Brief.

F. WIEDMANN, JUN.—There is not the slightest reason why you should not adopt the Nieuport type.

E. N. JOYCE.—Glad to hear the information given was useful. In reply to your first query, we do not know; but why bother about what anyone else does in this matter—what holds for one model does not apply in the case of another. The best method, in fact the only one, is actual experiment with the model in question. Try an amount, say one quarter total weight of model for a commencement. In reply to your second query, Jap silk can be proofed by coating with celluloid dissolved in amyl acetate; i.e., the fabric (tightly stretched on a frame) should be well sized (the size should

be both hot and thin), allowed to dry, stretched on the plane and varnished; celluloid varnish thinned down with the above being employed.

V. L. ADDISON.—Many thanks for your interesting letter. If you care later to send a good photo of your torpedo-type machine shall be pleased to reproduce the same.

### Query.

J. A. B. writes: "The only difficulty I have is getting the piano wire (20 S.W.G.) into shape for the planes. Size of model, 30 ins. long and 15 ins. by 3½ ins." We shall be pleased to publish (including drawings if necessary) a clear and concise account of a good manner of accomplishing this.

## THE KITE AND MODEL AEROPLANE ASSOCIATION.

### OFFICIAL NOTICES.

ON April 20th the members of the Association met at the Plumes Hotel, Park Royal, to officially take over the man-lifting kite outfit from Major B. Baden-Powell who, has given it to the Association for the use of the Kite Corps. Owing to the light wind it was not possible to give a display, and the squad had some trouble to keep up the four kites, which at the best only pulled 60 lbs.

**Model Display.**—Messrs. C. R. Fairey, G. Rowlands, H. Weston, C. Davies and H. Stedman gave a good display of flying. Mr. Stedman's model biplanes rising off ground made fine flights.

A scratch duration competition between Messrs. Fairey, Rowlands, and Weston, resulted in a win for Mr. Rowlands, the result being Mr. Rowlands, 45, 50, and 51.2 secs.; Mr. Weston, 24, 22, and 28 secs.; Mr. Fairey, 38.4 secs. (only flew once).

**Inter-Club Duration Contest, Ealing and District Aero Club v. Aero Models, Northern Branch.**—A very interesting competition took place between these two clubs. The judges being Messrs. C. Davies, G. P. Bragg-Smith, and W. H. Akehurst. The result was a win for Ealing, with 40.9, to Aero Models 22.5, Ealing therefore winning by 28.4. The best durations for Ealing was Houlberg, 63 secs., and for Aero Models, Murray 37.4 secs. The teams were Roche, Houlberg, Hall, Chilcott, and Kirchner for Ealing, and Ross, Murray, Corder, and Hindsley for Aero Models.

**Tea, Presentation and Concert.**—Tea was served on the lawn of the hotel by Host Robinson, during which it was stated that Mr. Claude Grahame-White had started to pay the members a visit, but to their disappointment when the telephone rang again it was found that he had returned to Hendon, being unable to reach Park Royal on account of the mist.

Lieut.-Col. F. C. Trollope took the chair at 7 o'clock, supported by Col. J. D. Fullerton, Major B. Baden-Powell. Col. Trollope said it was a great pleasure to be present as President of the Association and to have the pleasant task of presenting a testimonial to his old friend, Major B. Baden-Powell. The association had done a great deal in getting the Army Council to recognize the Aeronautical Engineers or the Motor, Kite and Wireless Telegraph Corps which had been formed. He thought that such a body of volunteers should be recognised, and he was certain that they would be of immense service to the nation, especially with wireless work. Also he hoped that the example of their late president in giving the outfit, would be an incentive to other public spirited and patriotic men to come forward and provide the money required for the motor section. He would be willing to give the details to anyone who would like to help forward such a noble object. He also dwelt upon the uses, &c., of the corps, and having read the illuminated address, which, he said, was a work of art, and it would be all the more prized by the Major, as it was executed by one of the leading members of the Council, Mr. E. W. Twining, he handed it to Major Baden-Powell amid applause.

Major Baden-Powell returned thanks and said it was a pleasure to him to have been able to do his little towards the encouragement of aviation in this country. A short concert followed and some interesting turns were given by Mr. F. Baker, "Capt. Gingah O. T."

and "Paper Bag Cookery"; Mr. R. G. Corder, "Dandy"; Mr. H. Such, "Jack's the Boy for Work" and "The Trumpeter"; Mr. Raymond, Musical Monologue; Mr. F. Pringuer, Conjuring; and others.

A vote of thanks to the President was proposed by Mr. Bragg-Smith, seconded by Mr. Fairey, for presiding at the meeting.



The illuminated address presented to Major Baden-Powell by the members of the Kite and Model Aeroplane Association.

**Flying Grounds.**—Wimbledon Common has been re-opened to modellists for the flying of model aeroplanes, which is the result of a deputation waiting upon the Wimbledon and Putney Conservators. But it is imperative that all models must have their motor rods protected by a wire or cane loop, according to the rules of the Association. The Council therefore appeals to all model clubs and individual flyers to carry out this rule, which is for the benefit of all interested in aviation.

W. H. AKEHURST, Hon. Sec.

## PROGRESS OF FLIGHT ABOUT THE COUNTRY.

Notes regarding Clubs must reach the Editor of FLIGHT, 44, St. Martin's Lane, London, W.C., by first post Tuesday at latest.

### MODEL CLUBS.

**Aero-Models Assoc. (N. Branch)** (Sec., MALCOLM B. ROSS 15, HIGHGATE AVENUE, N.).

ON Saturday, contest with the Ealing and District Ae.C., at Park Royal, resulted in victory for the Ealing visitors, with an average duration of 40.9 secs. to 22.5 secs. Two of the A.M.A. competitors did not get to the ground. The Ealing club flew six men to the four representing this club, the average being taken of the total four best flights. Scores as follows: Ealing and District Ae.C.—1. A. Houlberg, 63 secs.; 2. L. Roche, 39.8 secs.; 3. R. S. Hall, 31 secs.; 4. B. J. Kirchner, 30 secs.; 5. C. Chilcott, 19 secs.;

6. C. Davies. Aero-Models Assoc.—1. H. D. Murray, 37.4 secs.; 2. R. G. Corder, 31 secs.; 3. M. B. Ross, 18.8 secs.; 4. F. J. Hindsley, 2 2 secs.

Flying as usual to-day (Saturday), at Finchley.

**Birmingham Model Aero Club** (Secs., R. COBHAM, G. H. WOOD, 8, FREDERICK ROAD, EDGBASTON).

AN exhibition of model flying is being given by this club at Fazeley on Saturday, May 4th. At Billesley, last week, Mr. W. Lunn obtained duration of 25 secs., Mr. G. Haddon Wood a flight of 120 yards. Longest flight: Mr. Trykle, 95 secs.; H. F.

McManus, 65 secs.; J. E. Overton, 60 secs.; E. Prossers, 60 secs.; George Mason, 54 secs.; W. Lunn, 53 secs. Mr. G. Haddon Wood, with a model weighing only .8 oz. made a duration of 41½ secs.

At the close of both days a model gliding competition was held down the gliding hill. Saturday: Mr. G. Mason, 1st, with 112 ft.; Mr. G. Haddon Wood, 2nd, with 111 ft. Sunday: G. Haddon Wood, 169 ft.; E. Trykle, 142 ft.; W. Lunn, 140 ft.

**Blackheath Aero Club** (Hon. Sec., A. E. WOOLLARD, 48, HAFTON ROAD, CATFORD, S.E.).

AT Grove Park last week-end Mr. Dollittle made eight flights, the average duration was 52½ seconds. On many occasions the model rose to over 100 feet, the flights generally concluding with an excellent *vol plané*. Mr. F. Whitworth's average duration was 52½ seconds for five flights. Mr. A. E. Woollard obtained a duration of 45 seconds. All these made by 0-1-1-2P machines. Mr. F. M. Bailey did some good work with his 6½ oz. model, whilst Mr. Egelstaff made some flights with an "A frame."

A contest with the Ealing Aero Club is receiving the attention of the members, and it is proposed that eliminating trials be held on May 25th.

Flying at Grove Park next week-end, but not on the grounds that were used last week-end.

Model aeroplanists in the district who are not members of the club are reminded that the Kite and Model Aeroplane Association are holding registration trials on the Club's ground on May 11th, and if they purpose entering for any of the events, the hon. sec. will be pleased to hear from them as early as possible so that entries may be sent in.

A large number of members are adopting the motor rod protector and the committee hope to see all members using it in future.

**Brighton and District Model Aero Club** (Hon. Sec. A. VON WICHMANN, "KINGSLEIGH," KINGSWAY, HOVE).

VERY good assembly at Shoreham Aerodrome last Saturday. Bate, Barea, Burghope, White, Von Wichmann, and Wilkinson flying. In first contest for Townsend prize Burghope secured first round with 2.92 efficiency against Bate's 2.72 points (on duration loading formula). Both competitors broke much rubber in striving to improve second decimal place. Keen contest expected to-day (27th). During afternoon, Mr. Bate tested single-propeller model, very big and light, did 56 secs. Rubber motor enclosed in hollow tube. Highly successful. Mr. Burghope dropped his Nieuport from 5 ft. without damage. When tuned up this "tractor scale" should do about 80-110 yards in 10 secs.

**Colwyn Bay Model Aero Club** (FARNDON, COLWYN BAY).

THE above club has just been formed with the intention of encouraging aviation in this district. The first flying meeting was held on Saturday last, which proved successful in every way. The officers for the ensuing year are:—President, C. Grahame-White; Vice-Presidents, Councillor E. Allen, E. J. Bradley, Vivian Hewitt, Gerald Heap, Councillor F. G. Isherwood, J.P. (Mayor of Oldham), G. Rowland; Hon. Treasurer, G. F. Jackson; Joint Hon. Secs., Leslie G. Bradley and Norman J. Hall. The committee will be pleased to consider eligible applications for membership.

**Croydon and District Aero Club** (158, HIGH STREET).

THE competition postponed from Good Friday was held on Saturday, and resulted as follows: Messrs. W. Bell, 262 points; H. Smither, 230; C. Smither, 226. The other members lost points in steering. Mr. P. Hart's model did duration of 46 secs. and 291 yards. Mr. D. Pavely had durations ranging from 41 to 54 secs. Mr. Roden's 2 ft. 1-1-1P-type model made some long flights; Messrs. C. Smither, P. Hart and D. Pavely flights between 80 to 100 ft. high each.

On May 4th, steering competition, in which duration will count. Competitions are also being arranged for hydro-aeroplanes, rise-off-ground and tractor models.

All members who have not already done so have been asked to provide their models with protectors, as advised by Mr. V. E. Johnson, and no member will be allowed to enter any competition unless his model is so protected.

**Dover and District Model Aero Club** (Sec., H. D. DAVIS, "OAKVILLE," GODWYNE ROAD, DOVER).

ON Saturday H. Whorwell came first in the altitude competition with a very small monoplane about 2 ft. length 1 ft. span of main plane driven by two 9½ in. slow-speed propellers. C. Sargeant was first in construction with a beautifully made monoplane, the main plane of which had its frame made of two-ply cane entirely constructed by owner. The control and duration competitions are to be flown for again, also the off-the-ground, biplane and single screw competitions. Good flights were obtained by Holman, Wilson, Thompson, McNeille, H. D. Davis, E. N. Joyce and J. Clark.

**Dundee Model Aero Club** (31, NETHERGATE, DUNDEE).

THE club have decided to give certificates, divided into three classes—1st, 2nd, and 3rd. Next monthly meeting in club-room on May 2nd, at 7.45 p.m. The committee would like to know if it is understood that Mr. Myles, of the Dundee Aero Club, holds the record for Scotland of 65 secs. duration.

**Ealing and District Aero Club** (Sec., B. J. KIRCHNER, 1, QUEEN'S GARDENS, EALING, W.).

DURING the week Mr. A. Houlberg broke the club's duration record, with a flight of 77 seconds, officially timed and observed by Messrs. C. Davies and M. Read. On Monday, Mr. B. J. Kirchner, testing a new monoplane, obtained a flight of just about 1,000 feet in 32 seconds at a good height. On Wednesday, G. Beeching was flying before, and during the eclipse of the sun. Before, he obtained good flights at a good height, but during the eclipse his model would not fly at all well. Afterwards it again flew well. Mr. Beeching would like to know if others have experienced this. L. Kirchner was flying at the same time and can vouch for it.

On Saturday, at Park Royal, the contest with the Aero Models Association resulted in a win for the club, with an average of 40.9 secs. to the Aero Models 22.5 secs. The best flights of the first four contestants were:—Mr. A. Houlberg, 63 secs.; Mr. L. Roche, 39.8 secs.; Mr. R. S. Hall, 31 secs.; Mr. B. J. Kirchner, 30 secs. Mr. Roche had a duration of 42 secs. after the contest.

On Sunday, Mr. R. S. Hall obtained durations of 43 and 43½ secs. The contest with Blackheath Aero Club was erroneously announced for the 12th June. This should be the 8th June. A return contest for duration with the Paddington Aero Club takes place at 3.30 p.m. next Saturday, at the "100 acre" field, Greenford.

**East Ham and District Aero Club** (Sec., C. SHARP, 54, SAVAGE GARDENS, EAST HAM).

AT club's ground, Roman Road, this week-end, Stower, with Mann-type monoplane, made good steady flights of 200 yards, approximately, although only his second attempt; Sharp and Chaffy, with single sticks.

It is proposed to join hands with kite flyers in the district. Meetings every Saturday at 3 p.m.; readers of FLIGHT in the district are cordially invited. Workshop on the ground.

**Hackney and District Aero Club** (Sec., B. H. LONGSTAFFE, 47, JENNER ROAD, STOKE NEWINGTON, N.).

SATURDAY, Mr. Gittus's triple-screw monoplane showed great reserve power. Mr. Hill's large machine on one occasion completed two spirals during a *vol plané*. Next meeting at Spensley Hall, May 3rd, visitors heartily welcome. Yearly subscription has been reduced.

**Manchester Model Ae.C.** (40, BIGNOR STREET, CHEETHAM).

AT first meeting of season, on Saturday, there was a good show of models. The spectators numbered well up to 200, 120 being Boy Scouts from the Eccles Division. In efficiency competition, Mr. H. S. Watson proved winner with 4,410 points, Mr. D. Wood second with 2,050 points. Mr. Watson's model weighed 3½ ozs., and it flew 945 ft., and the weight of elastic used was ¾ oz.; under the formula he has 4,410 points. Mr. Wood's model weighed 3¾ oz., and it flew 820 ft., and the weight of elastic used was 1½ ozs., and he only obtains 2,050 points.

A short lecture dealing with the construction and use of models was given by Mr. Kinna to the Scouts, who were very interested in the proceedings. After the flying was over, the Scouts gave a display of drill and marching, and altogether a very enjoyable afternoon was spent in the aerodrome.

**Paddington and Districts Aero Club** (Sec., W. E. EVANS, 133, BUCHANAN GARDENS, HARLES DEN).

AT Parkside last Saturday, Carter, Chalfont, Davidson, Dutton, E. Evans, W. Evans, Jackson, Johnson, Lane, C. Levy, M. Levy, Sargent, Whybrow, and Woolley flying. Carter and Woolley tuning up "Bat" and "Wasp" models. W. Evans and C. Levy tuning up single propeller machines. Dutton completed his tests for 2nd class certificate by doing 630 ft. straight, and Carter qualified with narrow margins, doing 25½ secs. and 510 ft., the tests being 25 secs. and 500 ft.

In the evening, at club workshop, W. Evans gave an object-lesson in carving propellers. Woolley afterwards made a successful attempt to carry out the lecturer's instructions.

Flying to-day (Saturday) at Parkside, as usual, also inter-club contest at Ealing, 3.30 p.m.

**Palmer's Green and District Model Ae.C.** (15, MOFFAT RD., N.).

GENERAL meeting at Branfield's, Bowes Parade, at 7 p.m., May 3rd, to discuss important business.

An important open tractor competition will be held in a week or so.



### Reigate, Redhill and District Aero Club (Sec., H. V. MAY, 4, LONDON ROAD, REIGATE).

OWING to preparing the new workshop, little flying has been done this week. Norton, Lewis, Cox, Sutton and May have put up some good flights.

The workshop is now almost completed, and the committee this week meet to draw up rules and make arrangements about a demonstration of flying at Dorking. Flying as usual at 2.30 p.m. on Saturday (to-day) at Earlswood.

### St. Mary's Model Aero Club (Sec., H. W. A. JOHNSON, THE VICARAGE, KINGSTON, PORTSMOUTH).

BIG turn out of members on Saturday for monthly aggregate competition, which was, however, postponed until to-day (Saturday). Single-propeller monoplanes constructed by the Brothers Restall doing good duration flights, best being 50 secs. and 45 secs. respectively. Messrs. Byerly, Robbins, Harper, Roberts and Eburne out for distance, the latter doing best, viz., 1,218 ft. with a "Burr."

### Salisbury Model Aero Club (Sec., E. M. LEAR, VICTORIA COFFEE ROOMS, BUTCHER ROW).

FLYING at Wilton Road, Wednesday last. Two new members elected—Messrs. H. Pope and W. F. Forward.

Club competition, Wednesday, May 8th; prizes to be awarded to best all-round model, judged on a basis of points. Details later. Club records to April 16th: Distance—H. Sperring, 844 ft.; Duration—T. Besent, 30 secs. Next meeting, April 30th, 7.30 p.m.

The club's flying right over Wilton Road ground has now terminated, and members using same will do so at their own risk, and must alone bear all responsibility.

### Scottish Ae.S. Model Aero Club (6, McLELLAN STREET, GOVAN).

AT meeting on 15th inst., in the Institute, Elmbank Crescent, an interesting summer programme was arranged. The fixtures to the end of June include four ordinary flying meetings, two competitions for "flyers," and four hydro-aero meetings.

The official results of monthly competition on 20th inst. at Barrhead are as follows: distance—Mr. J. C. Balden,

893 ft.; Mr. W. G. Langlands, 665 ft. Duration—Mr. J. C. Balden, 35 secs.; Mr. W. G. Langlands, 31 secs. Meeting of hydro-aeroplanes to day (Saturday) at the pond in Whiteinch Park, at 3 p.m. May 4th, flying meeting at the racecourse, St. James' Park, Paisley.

### Sheffield Model Aero Club (Hon. Sec. C. F. W. CUDWORTH, 35, PENRHYN ROAD, SHEFFIELD).

GENERAL meeting on Thursday, May 2nd, 7.30 p.m., at Broomhead's Dining Rooms, Leopold Street (opposite Grand Hotel). Members should attend as it is a very important meeting. All interested will be welcomed.

### Windsor Model Flying (Sec., S. CAMM, 10, ALMA ROAD).

THE following members turned out with models last week:—E. A. Dowsett, S. Camm, E. Stanbrook, F. Camm, G. Hendry, and H. Hamblin. S. Camm averaged 55 secs. duration, 350 yards distance. In view of the facts set forth in last week's FLIGHT, it has been decided that all models must be protected. Contests will be arranged soon. Flying as usual to-day (Saturday), in Home Park.

### Worcester Model Aero Club (Sec., S. A. SEARS, VICTORIA INSTITUTE, WORCESTER).

ON 18th and the Saturday following eight models were out. Mr. Melhuish brought large Trykle-type model. Best flights were by Messrs. Colton and Smith.

Meetings to-day (Saturday) and Thursday, 25th, usual times.

### SCHOOL AERO CLUB.

#### Southgate County School Ae.C. (84, BOWES RD., PALMER'S GREEN).

GOOD flying during vacation by Reed, Redottée, Ellinghaus, Brown, Marsh, Herring, and Petty. On 18th, Ellinghaus's 36-in. model was timed to 45 secs. duration. Reed and Redottée are at present engaged in constructing 27 ft. span "Valkyrie" type glider, the result of early-morning experiments with a  $\frac{1}{2}$  full-size model glider.

Model flying, next term, on Saturday mornings at Powys Lane.

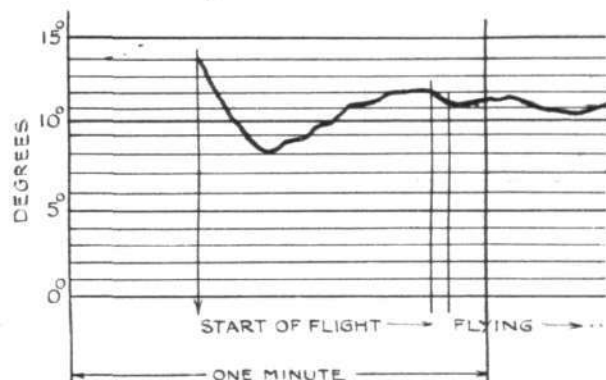
## CORRESPONDENCE

\* \* The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

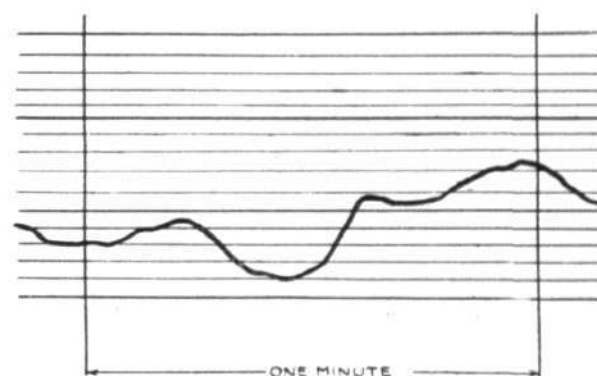
Correspondents communicating with regard to letters which have appeared in FLIGHT, would much facilitate ready reference by quoting the number of each letter.

### Pitching of Aeroplanes in Flight.

[1534] I enclose herewith as promised on April 3rd, about a yard of a record showing the instantaneous danger of inclination of an aeroplane in flight taken by a photographic recording apparatus carried on board. The machine has a good large tail plane and is stable longitudinally. You will observe the change of inclination from  $14^\circ$  to  $8^\circ$  at the start of flight.



ANGLE OF CHORD TO HORIZONTAL  
CLINOMETER (ESTIMATED ANGLE =  $5^\circ$ - $6^\circ$ )



of gravity of the aeroplane, which latter alone enters into the calculation of top pressures due to centripetal force.

There is, of course, some relationship between the two in calm air, but it has not yet been possible, at least at the R.A.F. to establish the definite relation between the two, partly because the air-speed of the aeroplane varies very much from the two causes—declension and wind gusts. In this particular experiment the wind speed was simultaneously recorded, but I doubt whether the matter would interest you. Indeed, I fear the whole thing though of the utmost use in the study of a particular aeroplane has only the interest of passing curiosity in the general way. MERVYN O'GORMAN.

As an example of a rapid change of inclination the steepest movement shown is from  $1^\circ$  to  $6^\circ$  at the 7th minute in about 9 seconds—but this graph was made some months before the top-pressure question was publicly discussed by Blériot, and a quick change was not attempted. It was a normal flight on a fair day.

As a warning against misinterpreting this and other such records I repeat that this gives the changes of inclination of the machine to the horizon (the line chosen being the wing chord) and this does not necessarily tally with changes in curvature of the path of the centre

[\*Major part is necessarily omitted in order to permit of reproducing the portions specifically described.—E.D.]

### Military Airships.

[1535] With reference to Mr. E. T. Willow's letter No. 1526, my apologies to him. I was considering foreign designs only, but perhaps hardly made that clear. In any case, I would like to mention that a 1909 publication of mine records Willows I. (model 1905), as having a swivelling propeller. Whatever the utility of dirigibles may be, it is certainly desirable to have it on record that the swivelling propeller is of entirely British origin, and seeing its connection with efficiency I would be the last to wish to rob Mr. Willows of his credit for having invented the idea—a good four years ahead of any appreciation of it by others. "Palmar qui meruit ferat." FRED T. JANE.



